MARATHON

AUTOMOTIVE SERVICE GUIDE

LUBRICATION TUNE-UP AND BRAKE ADJUSTMENT

LUBRICATE and INSPECT for SAFETY

1964

MARATHON OIL COMPANY

MARATHON KEY TO LUBRICANTS

Symbols are used in the guide to represent lubricant recommendations approved by the manufacturers. The table below keys the MARATHON products to those recommendations. For symbols not listed, use product described by manufacturer as shown on each individual page.

When you see this symbol	Use this MARATHON product
MO	For API Service MS EXTENDED LIFE V.E.P. 5W-30 DG ALL-SEASON V.E.P. 10W-30 DM V.E.P. HEAVY DUTY DS SERIES 3 V.E.P. (MS, DG, DM, DS: Detergent Motor Oils) MM, ML ENDURANCE—Non-Detergent Motor Oil Note: Where manufacturer recommends SAE 5W or SAE 5W-20, use Extended Life V.E.P. 5W-30 Motor Oil; for 20W-40, All-Season 10W-30 may be used
TO	OUTBOARD 2-CYCLE MOTOR OIL
BL, CG, GG, LM, OL, PM, SG, WG	MARALUBE "MOLY"—preferred MARALUBE NO. 2
BJ, CL, LG	MARALUBE "MOLY"
BR, SB, UJ, WB	MARAGREASE B—preferred MARALUBE "MOLY" MARALUBE NO. 2
WP, LL	WATER PUMP LUBRICANT
EP, GL4, GL4*, HP, HP*, MP, MP*	570 SERIES MULTI-PURPOSE GEAR COMPOUND (Approved for use in Limited-Slip Differentials) Note: Where manufacturer recommends SAE 75, use SAE 80
GL	550 SERIES GEAR LUBRICANT
AF, FA	AUTOMATIC TRANSMISSION FLUID TYPE A, SUFFIX A

MANUFACTURERS' OIL CHANGE RECOMMENDATIONS

Crankcase oil change interval recommendations of motor vehicle manufacturers are not shown on lubrication charts due to the variation between them. Individual recommendations, however, are important and should be considered.

In general, the crankcase oil must be changed more frequently during cold weather and for stop-and-start driving than is necessary during warm weather and for long high-speed trips. Since the average car is driven 9 to 10 thousand miles a year, the oil, in most cases, should be changed on a time rather than mileage basis. This is especially true for the second car in a family where it is used for shopping and "suburban taxi service."

Remember: Crankcase oil change and refill service, performed more frequently, offers assured protection; ignoring oil change recommendations offers only the possibility of serious damage.

PASSENGER CARS

BUICK

Initial and subsequent oil changes should be made as follows:

1963-64—Every 60 days or 6,000 miles, whichever occurs first.

1962 and prior—Anticipated lowest temperature above +32°, every 60 days or 4,000 miles, whichever occurs first; below +32°, every 30 days or 4,000 miles, whichever occurs first.

Exceptions: If there is danger of oil contamination by dust, water, or other foreign material during very extreme driving conditions, the oil should be changed more frequently.

CADILLAC

Initial and subsequent oil changes should be made as follows:

1963-64—Every 60 days or 6,000 miles, whichever occurs first.

1962 and prior—For prevailing temperatures above +32°, every 60 days or 4,000 miles, whichever occurs first; below +32°, every 30 days or 4,000 miles, whichever occurs first.

Exceptions: If there is danger of oil contamination by dust, water, or other foreign material during very extreme driving conditions, the oil should be changed more frequently. In such cases, an engine oil change is recommended after 2,000, or even 1,000 miles of driving.

CHEVROLET

All 1963-64 ex. Corvair

Initial and subsequent oil changes should be made as follows:

Engine oil should be changed at 60 day or 6,000 mile intervals, whichever occurs first. Under prolonged dusty driving conditions, it is recommended that the engine oil be changed more often.

All 1962 and prior ex. Corvair

Initial and subsequent oil changes should be made as follows:

Initial drain for 409-cu. in. engine is 1,000 miles and subsequent changes same as listed below.

Above +32°, every 60 days or 4,000 miles whichever occurs first; below +32° or during adverse driving conditions, every 30 days or 4,000 miles, whichever occurs first.

Exceptions: During extreme dusty driving conditions it may be necessary to change oil more often than specified above.

Corvair, Corvair 95 1960-64

Initial drain: If average outdoor temperature is above +60°, drain after 500 miles of operation; above +32°, drain after 4,000 miles or 60 days, whichever occurs first; below +32°, drain after 4,000 miles or 30 days, whichever occurs first.

Average drain: Above +32°, every 60 days or every 4,000 miles, whichever occurs first; below +32° or during adverse operating conditions, every 30 days or every 4,000 miles, whichever occurs first.

Exceptions: During extreme dusty driving conditions it may be necessary to change oil more often than specified above.

CHRYSLER

Initial and subsequent oil changes should be made as follows:

1964—Highway driving, combined with SOME SHORT TRIP, SLOWER SPEED OPERATIONS, extends the effectiveness of the engine oil and permits the oil to be changed every 3 months, or 4,000 miles, whichever comes first. SHORT TRIPS (less than 10 miles) and slow speeds cause harmful condensation and sludge formation. Driving under these conditions requires that the oil be changed every 3 months regardless of mileage.

Exceptions: Severe operating conditions, such as driving on dusty roads, or in a sandy geographical area, or unusually short trip driving in cold weather may require oil changes oftener than every 3 months.

1963—OIL CHANGE INTERVALS of up to 4,000 miles are recommended. HOWEVER, SHORT TRIP OR SEVERE OPERATING CONDITIONS frequently encountered in normal driving can greatly reduce the protective life of the oil and NECESSITATE MORE FREQUENT CHANGES. For most types of driving, the oil should be changed every 2 months.

1962 and prior—Every 4,000 miles or 2 months, whichever occurs first.

Exceptions: Short-trip driving in cold weather, or driving on dusty roads can make a change of oil advisable more frequently and at times as frequent as every 500 miles.

DODGE, DODGE DART, DODGE LANCER

Same as CHRYSLER.

FORD

1963-64—Initial and subsequent oil changes should be made as follows:

Every 6,000 miles or 6 months, whichever occurs first.

If a replacement filter other than the Ford Rotunda filter, or engine oils other than those recommended are used, more frequent engine oil and filter changes may be required.

CHANGE INTERVAL	MILES
1962 Initial	1,000
Average	6,000

Exceptions: If engine oils or replacement filters other than those recommended are used, more frequent oil changes may be required.

1960-61 Initial	1,000
Average	4,000

Exceptions: If your car is driven often in stop-and-go traffic, on short trips or through dusty areas, service more frequently.

IMPERIAL

Same as CHRYSLER.

'JEEP'

CHANGE INTERVAL	MILES
Initial	500 or 10 hours power take-off or off-highway operation.
Average	2,000 or 50 hours power take-off or off-highway operation, except models with 6-230 engine, 6,000 miles or 50 hours power take-off or off-highway operation.

Exceptions: Change engine oil more frequently depending on type and quality of oil used, severity of operating conditions and if vehicle is driven short distances in cold weather or allowed to idle excessively.

LINCOLN CONTINENTAL (1961-64)

CHANGE INTERVAL	MILES
Initial	1961, 1,000; 1962-64, 6,000.
Average	6,000 or 6 months, whichever occurs first.

Exceptions: 1961-64, if engine oils or replacement filters other than those recommended are used, more frequent oil changes may be required.

MERCURY, MERCURY COMET

1963-64—Initial and subsequent oil changes should be made as follows:

Every 6,000 miles or 6 months, whichever occurs first.

If a replacement filter other than the Genuine Rotunda filter, or engine oils other than those recommended are used, more frequent engine oil and filter changes may be required.

CHANGE INTERVAL	MILES
1962 Initial	1,000
Average	6,000 or 6 months, whichever occurs first.

Exceptions: More frequent changes are necessary to accommodate abnormal driving conditions. If engine oils or replacement filters other than those recommended are used, more frequent oil changes may be required.

1960-61 Initial	1,000
Second	4,000
Average	4,000 or every 4 months, whichever occurs first.

Exceptions: More frequent changes are required under abnormal driving conditions, such as consistent high speeds in high temperature areas, extremely dusty areas, or frequent low speeds and engine idling periods in low temperature areas.

OLDSMOBILE

Initial and subsequent oil changes should be made as follows:

1963-64—Every 60 days or 6,000 miles, whichever occurs first.

1962 and prior—Prevailing daylight temperature above +32°, every 60 days or 4,000 miles, whichever occurs first; below +32°, every 30 days or 4,000 miles, whichever occurs first.

Exceptions: Certain driving conditions, such as dust storms and frequent driving on dusty roads, necessitate more frequent oil changes.

PLYMOUTH, PLYMOUTH-VALIANT

Same as CHRYSLER.

PONTIAC, PONTIAC TEMPEST

Initial and subsequent oil changes should be made as follows:

1963-64—Every 60 days or 6,000 miles, whichever occurs first.

When driving on dusty roads, in dust storms or during extreme driving conditions which include long periods of engine idling, the oil should be changed more frequently to prevent the danger of oil contamination.

1961-62—Every 60 days above +32°, every 30 days below +32° or every 4,000 miles, whichever occurs first.

CHANGE INTERVAL	MILES
Others, Initial	1,000
Average	1958-60, Above +32°, 60 days, Below +32°, 30 days, Never to exceed 4,000 miles; 1,000 miles under dusty conditions.

Exceptions: 1958-61, adverse driving conditions, such as short trip winter driving (less than 10 miles average per trip), makes it advisable to change oil every month. Similar short trips in the summer make it advisable to change oil every two months.

RAMBLER

CHANGE INTERVAL	MILES
1961-64 Initial	1,000

Favorable conditions (over 10 miles average per trip) every 4,000 miles; summer (over +32° average), less than 10 miles average per trip every 2,000 miles; winter (below +32° average), less than 10 miles average per trip every 1,000 miles. For dusty driving conditions every 1,000 miles.

For cars not equipped with an engine oil filter, all mileages shown above should be reduced by one half.

STUDEBAKER

CHANGE INTERVAL	MILES
Initial	1,000
Average	1964 and Avanti, Serial No. R-4993 and after, 6,000 miles or 60 days, whichever occurs first; Avanti, Serial No. R-4992 and prior and others, 1963, and 1962 with full-flow oil filter, and prior, 2,500 to 3,000 miles.

All except 1964 and Avanti, Serial No. R-4993 and after: Regardless of mileage, oil should be changed every 30 days during the winter (temperatures below +32°); 60 days during summer (temperatures above +32°).

All: Severe operation, dust-bowl driving, and other unusual circumstances may make more frequent oil changes necessary.

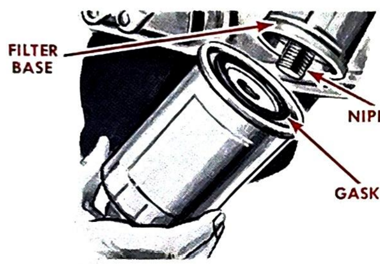
5. Use lintless cloth to clean inside of filter housing.
6. Reinstall drain plug if previously removed.
7. Install new element and gasket; replace cover.
8. Start engine; check oil pressure; check for leaks around filter cover.
9. Check crankcase oil level. Generally, one extra quart of motor oil is needed to bring crankcase level to full mark on dipstick after filter element replacement.

Screw-on Type:

This type filter can be easily removed or installed using a strap-type tool or by using a box end wrench on those filters that have a nut-like projection stamped into the bottom of the housing.

To replace filter, proceed as follows:

- Unscrew housing and discard complete unit.
- Wipe gasket area on filter base.



Screw-on type oil filter

- Place new gasket in retaining groove on new filter.
- Coat gasket with motor oil.
- Install new filter. Hand tighten until gasket surface contacts mounting base. Then tighten filter an additional ½, ⅔, or full turn as specified in the instructions stamped on the filter housing or printed on the container.
- Start engine; check oil pressure; check for leaks around mounting base. Stop engine.
- Check crankcase oil level. Generally, one extra quart of motor oil is needed to bring crankcase level to full mark on dipstick after filter element replacement.

The oil filter on Mercedes-Benz cars has a replaceable paper element and a wire strainer. Wash the strainer and replace the element at the intervals shown on the chart.

starting motor

Most modern starting motor bearings require no lubrication. Starting motors requiring lubrication will be equipped with an oil cup or oil hole.

- Wipe oil cup or oil hole.
- Use two or three drops of SAE 20,20W motor oil or grade specified on chart.

steering

Gear Housing:

Steering gear housing while not an engine accessory is serviced from under the hood as follows:

- Clean dirt from plug.
- Remove plug. Fill housing to level of fill hole with lubricant recommended on chart. Housings without plugs are filled by removing a cover attaching cap screw. Some are filled through the plug hole to the level of an attaching screw hole.
- Replace plug.

Late model Hillman Minx and Husky cars have an unusual steering gear with two fittings. Gear lubricant, as specified on the chart, should be applied while the steering gear is turned all the way to the right.

Rack and pinion steering gears generally require gear oil applied through a lubrication fitting. The correct lubricant is shown on the chart.

Some power steering gear housings are not serviced externally. Refer to chart for specific information.

Power Steering Reservoir:

Service power steering reservoir as follows:

- Clean around reservoir cover or fill cap. Remove cap or cover.
- Check fluid level. Proper fluid level is specified on chart.
- Add recommended fluid to proper level.
- Replace fill cap or cover.

If filter replacement is required, remove all fluid from the reservoir with a suction gun. Lift out the old filter and thoroughly clean the reservoir with a lint-free cloth before installing the new filter.

CHASSIS INSPECTION AND LUBRICATION

inspection

Safety, performance and reliability are three things the car owner wants when he brings his car in for service. He orders services performed that he knows should be taken care of and expects the serviceman to inspect and find any other pending trouble.

lifting procedures

Use caution when positioning a car on a lift. Many cars require special adapters to support the car frame properly when free-wheel or frame-engaging type lift is used. Be sure the correct adapter is selected and properly positioned as indicated on the chart. This will prevent injury to personnel and damage to the car. Always keep car doors closed while on the lift.

Special instructions on the chart should be followed when lifting cars with air suspension.

lubrication procedures

The front suspension and steering linkage fittings are shown on the chart by black dots. Prepacked bearings requiring inspection or service are indicated by black triangles.

Complete Chassis Lubrication:

For complete chassis lubrication, consult the applicable chart in this Guide for the location of every lubrication point, the lubricant to be applied and the interval at which the service should be performed. Also listed is important service information for automatic transmissions, wheel bearings, positive crankcase ventilating systems and other critical service points.

To double the value of your lubrication service and increase your profits from additional TBA sales and services, follow the safety inspection procedure outlined on the pages titled "Your Steps to Car Safety." Car safety inspection can well be one of your most important and profitable efforts.

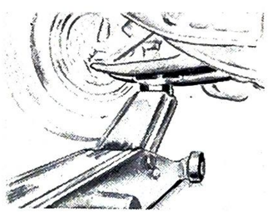
Lubrication Gun Adapters:

Use adapters to service hard-to-reach points like tie rod ends, control arms, and other fittings that cannot be reached in a straight line with a standard gun. Pressure relief adapters dispense lubricant at lower pressure. Instances where the manufacturer specifies low pressure are shown on the chart. High pressure on these fittings may rupture seals or gaskets or cause other damage.

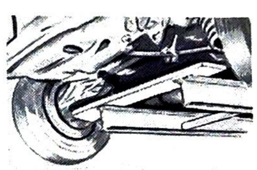
Ball Joint Lubrication:

When lubricating front suspension ball joints, it is important that the car be lifted in a manner that will unload the ball joints so that the lubricant can effectively enter the joints. The design of the front suspension dictates where the jack or lift should be placed.

When the front coil spring is mounted between the upper and lower control arms, the support must be placed under the lower control arm as close to the wheel as possible. This can be accomplished by the use of a floor jack or by placing a heavy plank across the rails of a rail-type lift to properly support the lower control arms. A small hand-operated jack can be used on the rails of a drive-on type lift.



The use of a floor jack will unload the ball joints



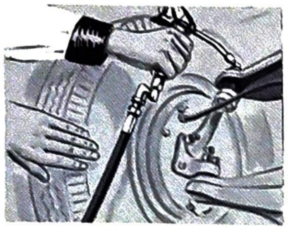
A sturdy plank placed across the lift rails will properly support the lower control arms

When the coil spring is mounted above the upper control arm, as it is on the Ford Falcon, Chevy II and others, the vehicle must be lifted by the frame to properly unload the joints. The normal use of the standard frame contact lift, along with the proper adapters, will satisfy this requirement.

Ball Joint Lubrication Procedure:

Follow this procedure for lubricating ball joints equipped with standard fittings.

- Lift the front of the car by the lower control arm or frame, as previously explained, to unload the ball joints.
- Wipe fittings clean, apply lubricant intermittently.
- Turn wheels from side-to-side to distribute lubricant in joints.



Apply lubricant to ball joint while turning wheels from side-to-side

- Repeat procedure at other front wheel, turning wheels from side-to-side after lubricant has been applied.

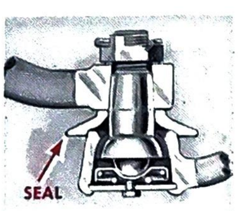
Note: The up-and-down movement of the tire and wheel assembly as the lubricant is applied is evidence that the ball joints are separating by the forceful entrance of the lubricant and does not indicate worn parts.

- Lower car to floor. Bounce car up-and-down and rock it from side-to-side several times to check for noise. If noise is heard, relubricate joints.

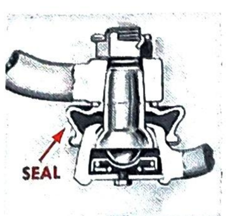
Lack of lubricant at the ball joints produces two distinct types of front end noise. Dry lower ball joints produce a crunching or squeaking noise as the car is slowly bounced up-and-down. Dry upper ball joints produce a snapping or cracking noise as the front end is bounced more forcibly.

Prepacked Bearings:

Many late model cars are equipped with prepacked bearings at their front suspension ball joints and/or steering linkage joints. The extended mileage interval at which prepacked bearings are relubricated is made possible, in addition to changes in lubricants by the use of better rubber seals. Usually a balloon-type seal is used to replace the former umbrella-type. However, to prevent seal rupture, lubricant must be applied slowly and at low pressure because balloon-type seals do not readily allow excess lubricant to escape.



Umbrella-type



Balloon-type

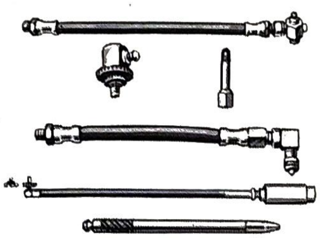
Prepacked bearings are identified on the chart by black triangles.

The recommended prepacked bearing service procedure and the special lubricant to be used are listed on the applicable charts.

Inspection:

When a car equipped with prepacked bearings is on the lift, the seals of the bearings should be inspected for physical damage such as tears, ruptures or worn spots. Damaged seals should be replaced. Also make sure that the screw-in metal plug or press-in plastic plug is in place on every bearing.

The relubrication of prepacked bearings requires the use of special lubrication adapters. A typical group of such adapters is illustrated below.



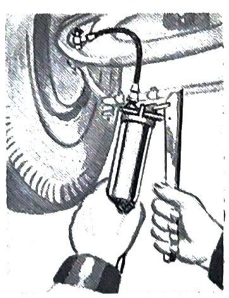
Prepacked bearing lubrication adapters

Lubrication:

Prepacked bearings should be repacked at the interval specified on the chart or sooner if the need for lubricant is evident or the seals have been damaged permitting the loss of lubricant and the entrance of dirt.

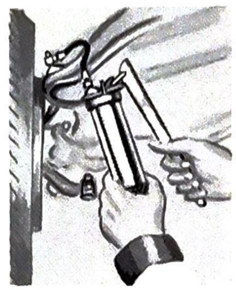
Follow this procedure for relubricating prepacked ball joints and steering linkage joints:

- Unscrew the metal plug or pry out the plastic plug. Discard plastic plug.



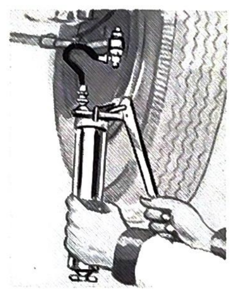
- Screw the lubrication adapter into, or press rubber tip of adapter or special hand gun into the plug hole in the bearing and apply the recommended lubricant until it is visible around seal or until seal is filled.

- Install and tighten the metal plug or press in a new plastic plug.

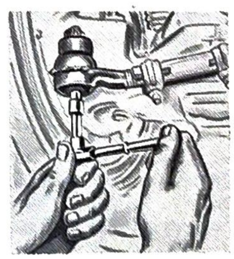


- Upper ball joint is serviced in the same manner as the lower joint: remove plug, lubricate, replace plug.

- Unscrew metal plug or pry out plastic plug from steering linkage joint. Discard plastic plug.



- Screw lubrication adapter into, or press rubber tip of adapter into lubrication hole and apply lubricant until it is visible around seal or until seal is filled.



- Replace and tighten metal plug or press new plastic plug into position.

When prepacked bearings are constructed without a provision for relubrication, the ball joint or steering linkage joint must be replaced if the joint is dry, worn or the seal is damaged.

battery maintenance

The condition of the battery should be checked during each chassis lubrication.

- Check electrolyte level. Add pure water to bring level to ⅜ inch above top of plates.
- Clean dirty battery top with ammonia water or baking soda solution, rinse and wipe dry.
- Check cable connections and hold down. Tighten if necessary.

SERVICE INSTRUCTIONS

Front Wheel Bearing Adjustment:

Adjustment procedures and torque specifications are listed on each chart.

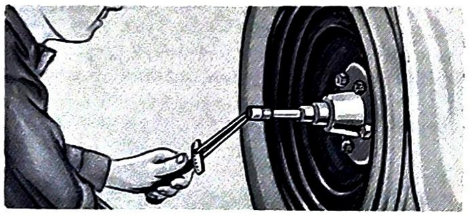
Front wheel bearings are adjusted by either of two methods:

FEEL AND DRAG METHOD —

- Tighten wheel retaining nut until wheel drags slightly when rotated. Turning wheel also seats bearing.
- Loosen retaining nut $\frac{1}{12}$ turn (½ hex) for ball bearings or $\frac{1}{6}$ turn (1 hex) for roller bearings, to align nut slot with cotter pin hole in spindle. Wheel should rotate freely.
- Insert new cotter pin. Bend one leg over end of spindle. Clip off end of leg if static collector is used in dust cap. Bend other leg over retaining nut. Tap legs lightly to set. Cotter pin must be tight.

TORQUE WRENCH METHOD —

- Make sure wheel retaining nut is running free on threads.
- Tighten with torque wrench to initial torque recommended by car manufacturer, as shown on chart.
- Loosen retaining nut and retighten to secondary torque, if recommended on chart, OR
- Loosen torque from initial torque position, as shown on chart.



Adjusting bearing with torque wrench

- Insert new cotter pin. If necessary, loosen nut slightly to align cotter pin hole.
- Bend one leg of cotter pin over end of spindle. Clip off end of leg if static collector is used in dust cap. Bend other leg over retaining nut. Tap legs lightly to set. Cotter pin must be tight.

Some late model cars use a separate nut lock in conjunction with the wheel bearing adjustment nut. Adjust as follows:

- Tighten adjusting nut to specified torque.
- Slide nut lock over adjusting nut in a position that aligns the castellations on lock with cotter pin hole in spindle.

Placing nut lock on spindle

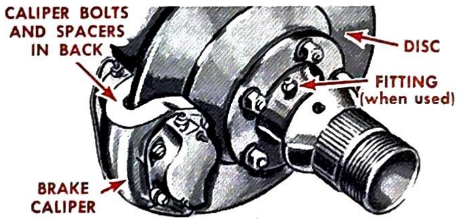
- Back off both adjusting nut and nut lock together until next castellation on nut lock is aligned with cotter pin hole in spindle.
- Install new cotter pin and bend legs of pin around castellated flange of nut lock.

Some imported cars have nonadjustable front wheel bearings with spacers. A puller is usually required to remove the front hub. A puller must also be used to remove the bearing from the spindle if the inner bearing or race remains on the spindle.

- Bearings are cleaned, checked and repacked in conventional manner.
- Inner bearing, oil seal, spacer and outer bearing should be inserted in hub when reassembling.
- Use soft metal drift on outer bearing and tap into position.
- Do not back off to line up cotter pin hole when tightening front hub nut.
- Hub nut must be drawn up tight because bearings are not adjustable.

The 1963 Studebaker Avanti and many high-performance imported cars are equipped with disc brakes and care must be used when repacking wheel bearings. Unbolt and support the disc brake caliper without disconnecting the hydraulic brake lines. Check the number of shims and their position at the caliper mounting points before disassembly. Be sure to replace the shims in their original position. The bearings should be disassembled, washed, dried, repacked and adjusted using the same procedure used when servicing drum-type brake-equipped cars.

Some imported cars have fittings for lubricating the front wheel bearings. Jaguar grease fitting, mounted on the wheel hub, is exposed by removing the front wheel. Grease appearing at a vent hole in the dust cap will indicate when enough grease has been applied on cars with disc wheels. Grease can be seen coming past the outer wheel bearing by looking into the end of the splined hub adapter on cars with wire wheels.

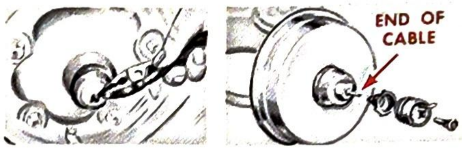


Remove disc brake caliper to repack bearings

The front hub caps must be removed to expose the wheel bearing fitting on some Triumph TR2 models with disc wheels.

Speedometer cables normally do not affect wheel bearing service and are driven from the transmission or transmission extension housing. The Porsche and Volkswagen and some 1963-64 Oldsmobiles, however, drive their speedometers from the left front wheel. The speedometer cable runs through the spindle and is driven by the dust cap which is pressed into the wheel hub in the usual manner.

When performing front wheel bearing service on the Porsche or Volkswagen, the cotter pin which locks the speedometer cable to the dust cap must first be removed. The cable can then be withdrawn or the dust cap pried off. When the service is completed, a new cotter pin should be installed.



Porsche & Volkswagen *Oldsmobile*

Left front wheel speedometer drives

For Oldsmobile, carefully pry off the dust cap with a screwdriver and pull the cap straight off the hub to avoid bending the speedometer cable. When reinstalling the dust cap, fit the nylon cap insert over the cable end, then push the cap into its hub.

rear wheel bearings

Rear wheel bearings of most domestic cars do not require lubrication service. Bearings requiring service have a lubrication fill hole sealed with either a fitting or plug as indicated on the chart. The type and quantity of recommended lubricant is also shown on the chart.

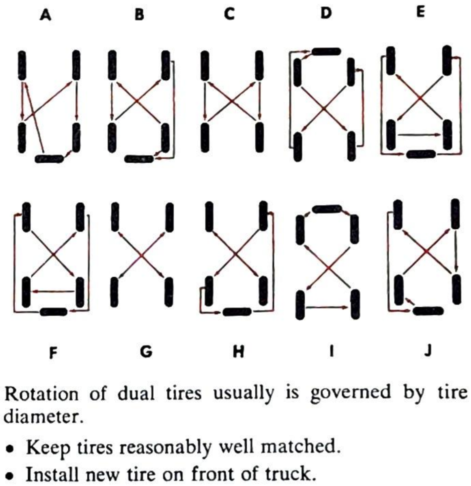
- Wipe fitting clean.
- Lubricate at low pressure.
- If plug, wipe plug and adjacent area.
- Remove plug to expose fill hole.
- Lubricate slowly at low pressure, using taper tip on lubrication gun. Replace plug.

The rear axle shaft must be removed to repack rear wheel bearings of some cars. Special puller tools and know-how are required for these operations. Thus, this work is generally considered a mechanic's job.

tire rotation

Tire rotation greatly increases tire life because wear is spread evenly over all the tires.

The various methods for tire rotation as specified on the individual charts are shown below:



Rotation of dual tires usually is governed by tire diameter.

- Keep tires reasonably well matched.
- Install new tire on front of truck.
- Mount tire with most tread on outside.

ENGINE TUNE-UP

when to tune-up

Tune-Up should be recommended whenever an engine is hard to start, loses power and performance, or uses an excessive amount of fuel. To keep the engine operating at maximum efficiency, it is also advisable to recommend Tune-Up on both a mileage interval as well as on a seasonal basis.

The full benefits of Tune-Up will be realized when combined with the other periodic services shown on the chart, such as air cleaner service, fuel filter replacement, manifold heat control valve lubrication, crankcase ventilator system service, crankcase drain and refill, and oil filter replacement.

The operations listed in the Tune-Up Data, which is contained on every car model page in this Guide, are arranged in the sequence in which they should be performed. Following this procedure will save time and provide the most satisfactory results.

The required equipment has been centered around the economically-priced, portable type of test equipment with which the average stationman is familiar.

battery

The battery is tested first because it is the basic source of energy in the automotive electrical system.

The AABM battery group number listed in the data is a code number that indicates the battery's voltage, physical size and shape, cell arrangement, terminal post position and type of hold-down. The group number will assure the proper selection of the replacement battery.

The ampere-hour capacity is listed because the ampere-hour rating of the replacement battery should be at least that of the original battery. The ampere-hour rating must also be known to perform certain battery tests.

Most passenger car and truck models covered in this Guide are equipped with a 12-volt battery. Where a 6-volt battery is used, it is so indicated in the Data.

Dual 6-volt battery installations, as used in some makes of imported cars, are indicated by the symbol (2).

Battery Testing:
A battery may be tested for: Specific gravity with a hydrometer; cell voltage variations by light load test with a low-reading voltmeter; capacity with a Battery-Starter Tester.

SPECIFIC GRAVITY TEST —
A specific gravity test is made to determine the battery state of charge. The hydrometer used in this test measures the percentage of acid present in the battery solution.

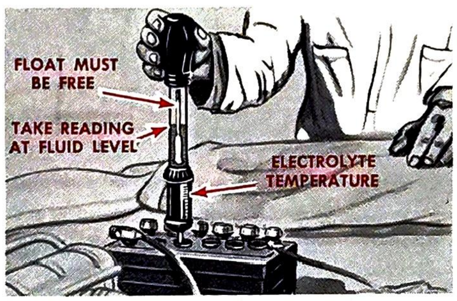
If the solution has full acid strength, the battery is in a full state of charge and, unless it is physically defective, is capable of acceptable performance.

If the solution is weak, it is an indication that most of the acid is soaked into the plates. Recharging the battery will drive the acid out of the plates back into the solution restoring the battery's strength and consequently its working ability.

1. Use hydrometer to draw electrolyte from cell until float is freely suspended. Do not draw too much electrolyte.
2. Read specific gravity on float scale at point even with electrolyte level and make necessary temperature correction.

Generally speaking, a fully-charged 12-volt battery has a specific gravity of 1.260 and a 6-volt battery has a specific gravity of 1.280. A battery with specific gravity of 1.220 or less is in need of charging.

3. Return electrolyte to cell from which drawn. Use care not to spill electrolyte on the car finish. CAUTION: If electrolyte contacts skin, rinse immediately in clean running water.
4. Check the specific gravity of each battery cell.
5. Add distilled or pure drinking water to the cells until level is about 3/8 inch above the plates or up to the full mark on fill wells.

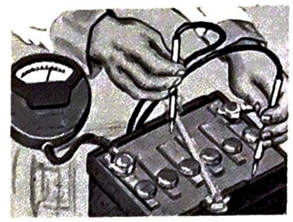


A specific gravity test indicates battery state of charge

LIGHT LOAD TEST —
A light load test indicates the battery state of charge and also reveals the presence of internal defects.

1. Connect jumper lead to distributor primary terminal and to ground.
2. Crank engine for 3 seconds.
3. Turn headlamps on low beam for at least 1 minute.
4. With headlamps still on, check individual cell voltages. Cell readings indicate:

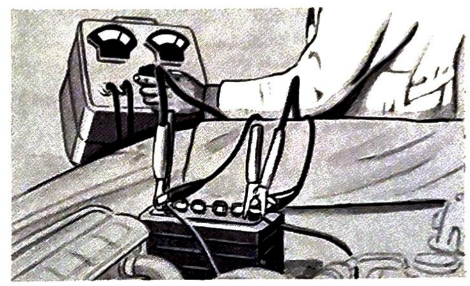
CELL VOLTAGE	MAXIMUM VARIATION BETWEEN CELLS	BATTERY CONDITION
1.95 or more, all cells	Less than .05 volt	Good
Less than 1.95 for any cell	Less than .05 volt	Good, but needs charging
Less than 1.95 for all cells		Discharged. Charge and retest
1.95 or more for any cell	More than .05 volt	Defective. Replace battery



Testing individual cell voltage

CAPACITY TEST —
A battery at or near full charge can be tested for internal defects by a capacity test. A capacity test duplicates the maximum battery effort required to crank a cold engine.

- Clip Battery-Starter Tester leads to battery terminals in proper polarity.

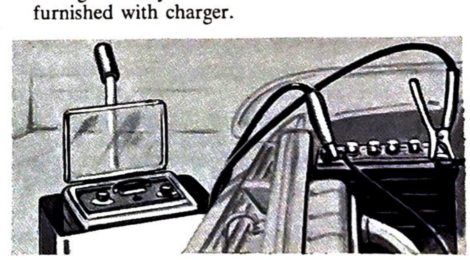


Conducting a battery capacity test

- Conduct test as recommended by test equipment manufacturer.
- Recommend battery replacement if a 12-volt battery drops below 9 volts; or a 6-volt battery drops below 4.5 volts.

Battery Charge:
If the specific gravity test indicates the need for charging, proceed as follows:

- Add water to bring electrolyte to proper level.
- Charge battery in accordance with instructions furnished with charger.



A fast battery charger is an essential piece of equipment

CAUTION: When recharging the battery in a car equipped with an alternator, remove the battery cables from the battery before operating the charger.

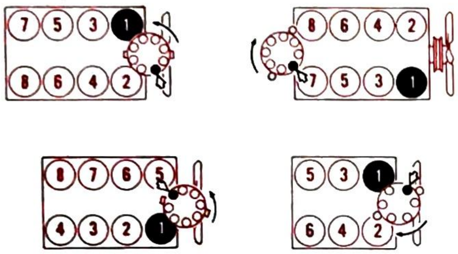
Never use a fast battery charger as a booster to start an engine equipped with an alternator.

Failure to observe these precautions may result in damage to the alternator diode rectifiers.

Do not smoke and avoid creating sparks near a battery that is being charged.

cylinder numbering sequence

Cylinder numbering sequence is illustrated in the Data because this information varies with different engine designers. The cylinder used to ignition time the engine, usually No. 1, and its corresponding distributor cap tower, are identified in black on the engine illustration. Either of these two points can be used for connecting the timing light when setting the ignition timing of the engine. The distributor cap hold-down clip or screw positions are also indicated to accurately identify No. 1 cap tower position.



Examples of No. 1 cylinder position and cylinder numbering sequences

The direction of rotor rotation, as viewed from the top of the distributor, is indictated by an arrow on every distributor illustration.

The firing order of an engine is the sequence in which the cylinders must be fired for smooth engine operation and full power. The firing order of the engine(s) is listed below every engine diagram(s) in the Data.

Knowing the position of the No. 1 tower in the distributor cap, the direction of rotor rotation and the firing order, will serve two important functions. First; the cables can be properly connected to their respective spark plugs after the plugs have been serviced or replaced. Second; when replacing defective spark plug cables with a new set, the new cables can be correctly positioned in the distributor cap by starting with No. 1 position and following the firing order around the cap in the direction of rotor rotation while selecting each cable for proper length.

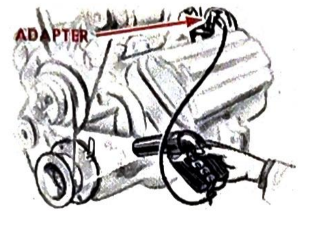
When replacing cables, be sure to press the new cables down firmly into the distributor cap towers. Be certain to properly position the cables in their holders, when used, to prevent ignition cross-firing.

ignition timing

Correct ignition timing is one of the most important factors relative to efficient and economical engine operation. It must be checked on every Tune-Up.

In most instances, ignition timing is checked with a timing light that is powered by battery current and is "triggered" by voltage applied to the spark plug to which the light is connected.

The spark plug to which the timing is connected is generally the one in No. 1 cylinder. If this spark plug is inaccessible, a timing light adapter can be inserted between the No. 1 distributor cap tower and its spark plug cable. The light can then be connected to the adapter.



Using No. 1 distributor cap tower for a timing light connection with the aid of an adapter

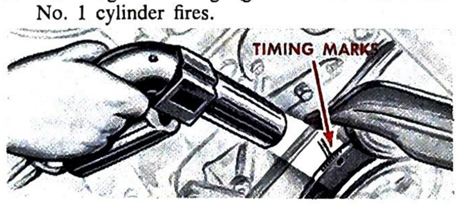
It is important that an adapter be used when necessary. DO NOT puncture spark plug cables with pins or clips to make a point for a connection. Piercing the insulation results in permanent damage to the cable which permits the loss of high-voltage current with resultant ignition misfiring.

Timing setting and location of timing mark are shown in the Tune-Up Data. Always refer to this Data for ignition timing procedures and specifications because this information varies with different car manufacturers. It is advisable to check the ignition point dwell or gap before setting the ignition timing because any subsequent change in point dwell will change the timing.

Timing Procedure:

Ignition timing procedures, in general, are:

1. Locate timing mark on harmonic balancer, crankshaft pulley or flywheel.
2. Bump engine with starter until timing mark appears. If marks are not readily visible, coat timing mark and reference pointer on engine with white chalk or paint.
3. Operate engine until normal operating temperature is reached. Stop engine.
4. Connect timing light to spark plug in No. 1 cylinder or to No. 1 cylinder distributor cap tower. Follow the light manufacturer's instructions.
5. Start engine. Timing light will flash each time No. 1 cylinder fires.

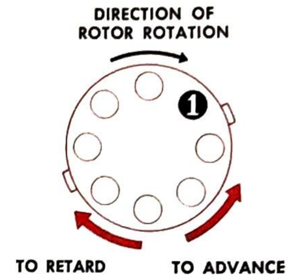


An ignition timing light

6. Operate engine at specified idle speed. Aim light at timing mark. CAUTION: Be careful of revolving fan blades.
7. Reset ignition timing if timing mark appears on either side of reference pointer.

Ignition timing is set by loosening the distributor clamp screw and slowly turning the distributor housing against rotor rotation to advance the timing or with rotor rotation to retard the timing, until the correct timing mark aligns with the reference pointer. Then tighten the clamp screw and recheck the timing.

Engines operating with retarded (late) ignition timing lack performance, waste fuel and have a tendency to overheat. Advanced (early) ignition timing causes spark knock and raises combustion chamber temperatures to the point where spark plug and piston damage can result.

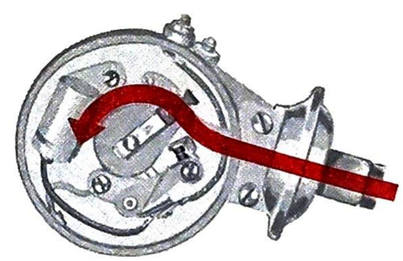


Ignition timing is set by turning the distributor housing in the direction of the bold arrows

Slowly turn the distributor housing in the direction indicated by the arrows to secure alignment of the specified timing marks.

If the ignition timing is found to be out of specifications when checked, the condition has very likely been caused by wear on the rubbing block of the breaker point arm. Before resetting the timing, inspect the condition of the points and the rubbing block. Replace defective points. If the points pass inspection, adjust the dwell angle and lubricate the distributor cam. Then reset the ignition timing as required. Readjusting the dwell angle may automatically reset the timing.

The direction of rotor rotation may be determined at a glance, without removing the distributor cap or cranking the engine, by merely observing the position of the vacuum advance unit on the distributor housing.



The position of the vacuum advance unit can be used to indicate the direction of rotor rotation

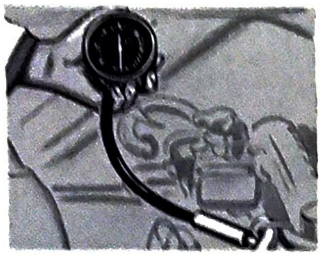
The function of the vacuum unit is to advance the spark timing by moving the breaker plate against the direction of rotor rotation. Rotor rotation will therefore be away from the vacuum unit as indicated by the arrow in the illustration.

fuel pump

Fuel pump tests are made to test the ability of the pump to maintain the specified pressure and to supply the proper volume of fuel to meet the fuel requirements of the engine at all speeds and loads. Observe all safety fire rules when conducting fuel pump tests. Following are the general fuel pump testing procedures.

Pressure Test:

- Disconnect fuel line at carburetor.
- Attach pressure gauge to disconnected fuel line.
- Idle engine at speed specified in Data.
- Note pressure reading on gauge.
- Replace fuel pump if pressure is out of limits.



A fuel pump pressure test

Volume Test: (for mechanical pumps)

- Insert tee in fuel line at carburetor.
- Attach length of tubing to tee.
- Start engine and run at recommended speed.
- Direct gasoline flowing from free end of tube into pint measure held level with carburetor.

A fuel pump volume test

- Observe time required to collect quantity of fuel specified. Replace fuel pump that delivers less than specified volume in time listed in Data.

carburetor adjustment

The adjustment of the carburetor takes place only when all other conditions pertaining to efficient engine performance have been checked, as previously described. An initial setting of the idle mixture screws should be made first. Then make the final adjustment. When seating the idle mixture screws, stop turning the screws inward as soon as the needle touches its seat. Forcibly seating the mixture screws results in grooving the tapered needle tip and in damaging the needle seat. This condition will make a fine idle adjustment impossible.

Initial Setting:

1. With engine stopped, turn adjusting screw(s) in (clockwise) until seated *lightly*.

Adjusting the carburetor idle mixture

2. Turn adjusting screw(s) out (counterclockwise) the number of turns specified in Tune-Up Data. Be sure to turn screws exact same number of turns when carburetor has two screws.

Final Adjustment:

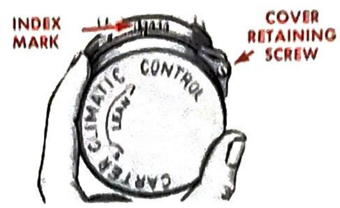
3. Connect tachometer to distributor primary terminal or coil distributor primary terminal and to ground.
4. Start and operate engine until normal operating temperature is reached.
5. Adjust throttle stop screw for correct idle speed specified in Tune-Up Data.
6. Turn idle adjusting screws in equally until tachometer needle drops back slightly.
7. Turn idle adjusting screws out until tachometer returns to highest reading.
8. Adjust throttle stop screw for idle speed specified in Data.

Automatic Choke Adjustment:

Insufficient automatic choke action causes hard starting and continual stalling with a cold engine. Prolonged choke action causes excessive fuel consumption, fouled spark plugs, and crankcase motor oil dilution.

A scribed or embossed line on the choke body or carburetor air horn, called an index mark, is used to provide a setting for the tension adjustment of the bimetal thermostatic spring of the choke mechanism. Automatic choke covers are generally marked to indicate direction to turn the choke cover to secure the recommended adjustment.

Turning the choke cover sets the automatic choke adjustment



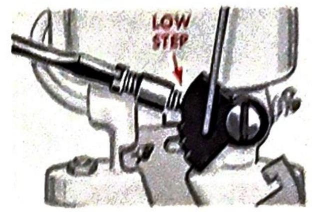
Chokes of this type are adjusted as follows:

- Loosen the cover retaining screws.
- Adjust the cover to the position specified in the Data.
- Tighten the retaining screws.

Another design has the thermostatic spring mounted on the manifold. If adjustment is prescribed, disconnect the upper end of the rod between this spring and the carburetor choke lever. Hold the choke valve closed and pull the rod up against its stop. As specified in the Data, the rod should be ½ to 1 diameters above the hole in the choke lever. If necessary, bend the rod to adjust its length.

engine idle speed

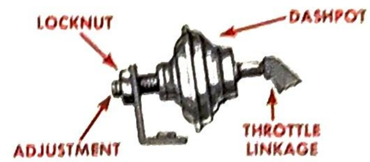
Correct engine idle speed is important because an idle speed set too low causes frequent engine stalling and an idle speed set too high will interfere with proper clutch engagement. In automatic transmission-equipped cars an idle speed set too high causes the car to "creep" requiring constant brake application at traffic lights.



Setting engine idle speed

The idle speed adjustment is made with the engine at operating temperature and the throttle stop screw resting on the low step of the fast idle cam. The recommended idle speed is specified in the Data.

A dashpot, which is a throttle slow-closing device, is used on many cars. Its function is to prevent engine stalling when the throttle is closed suddenly.



Adjustment of most dashpots is a simple operation

If, after idle speed adjustment, the engine does not return to the same idle speed each time the engine is accelerated and idled, the throttle linkage may be binding or the dashpot may be malfunctioning. Relieve the linkage binding and replace the dashpot if it does not respond to adjustment.

valve clearance

Cars equipped with hydraulic valve lifters automatically maintain a constant zero lash.

Valves that require adjustment are generally adjusted with the engine hot and running. If, because of engine design or other factors, it is recommended that the valves be adjusted when the engine is cold and not running, the Tune-Up Data will so indicate.

The general valve clearance adjustment procedure is as follows:

1. Remove rocker arm or valve chamber cover.
2. Start and idle engine till normal operating temperature is reached.

Adjusting engine valve clearance

3. Pass feeler gauge between rocker arm and valve stem tip on all valves.
4. Adjust valves to clearance specified in Data.
5. Stop engine.
6. Replace cover. Be sure cover gasket is in perfect condition. If it is not, replace it.

BODY LUBRICATION

Body maintenance is an important part of every lubrication job. A car that squeaks after lubrication results in a dissatisfied customer.

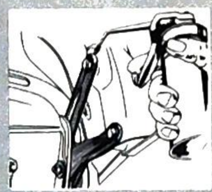
Always begin by wiping off old lubricant and accumulated dirt with a solvent moistened cloth. Apply fresh lubricant sparingly. Be especially careful to remove any excess lubricant from places which customer might brush against.

- Start with under hood points, then circle the car and lubricate door latches, hinges, weatherstrip and locks
- Open trunk or station wagon tail gate, service latch, check link, hinges and weatherstrip
- Lubricate fuel tank door and clean out body drain holes. Where found, lubricate sealing strips covering drains under doors
- Inside body, service window vent locks, glove compartment, ash receiver, parking brake and seat tracks
- Periodically repack speedometer cable and, on convertibles, lubricate top mechanism and zipper

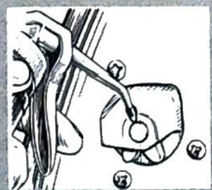
HOOD LATCH AND HINGES

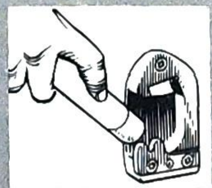
Latch dowel . . . . **DE**


Latch plate . . . . **DE**
Safety catch . . . . **MO**

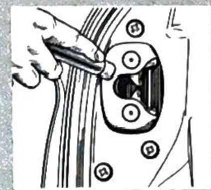

Hinges, at both sides of hood. . . . . **MO**

DOOR HARDWARE

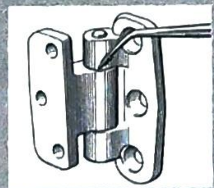

Rotary latch . . . . **MO**

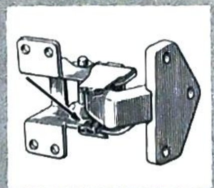

Rotary latch striker. . . . . **DE**


Toggle-type latch and striker . . . . **MO**

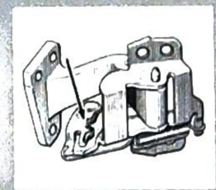

Double toggle-type latch and striker . . . . **DE**


Lift bolt latch and striker . . . . **MO**


Hinge pins . . . . **MO**

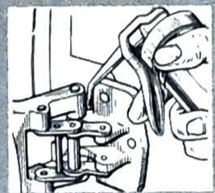

Spring-type hold-open. . . . **CL**


Tang-type hold-open . . . . . **DE**

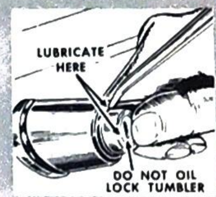

Roller-type hold-open . . . . **CL**


Courtesy light switch button . . . . **DE**


Strap-type check . . . . . . **MO**


Folding-type check . . . . . **MO**


Weatherstrip. . . . . . **RR or SE**



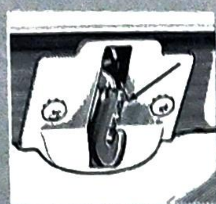
Push button . . . . **MO**
Lock tumblers . . . . **FG**

KEY TO LUBRICANTS

- **CL** Chassis Lubricant
- **DE** Dry Stick Lubricant
- **FG** Flake Graphite
- **HB** Hydraulic Brake Fluid, Heavy-Duty
- **MO** Motor Oil
- **RR** Rubber Lubricant
- **SE** Silicone Grease
- **SP** Speedometer Cable Grease

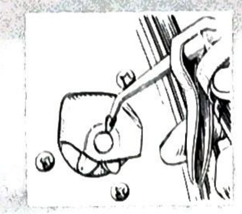
BODY LUBRICATION

TRUNK DOOR AND TAIL GATE

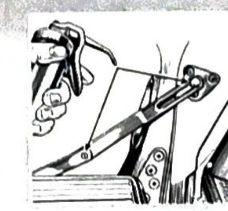


Trunk latch . . . . DE

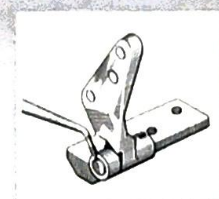
Trunk hinge pins. . . . . . MO



Tail gate latch. . . . . MO

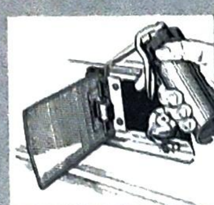


Tail gate check link. . . . MO

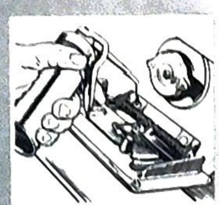


Tail gate hinge pins. . . . MO

FUEL TANK COVER



Door in fender or body. . . MO



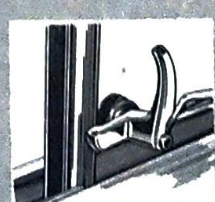
Behind license . . . . MO

BODY DRAIN HOLES

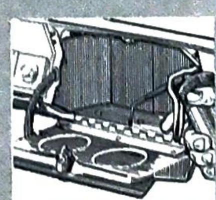
Clean out drain holes

Door drain hole sealing strips . . . . SE

INSIDE BODY

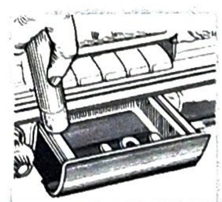


Vent lock . . . . MO

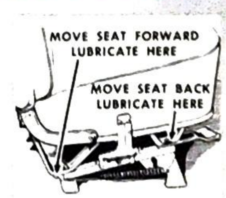


Glove compartment . . . . MO

Parking brake CL



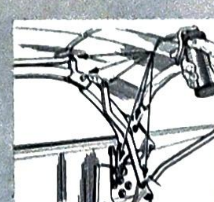
Ash receiver . . . . DE



Seat track slides. CL

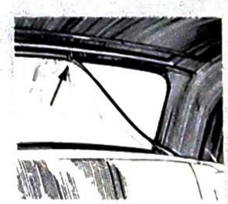
Speedometer cable . . . . SP
Coat lower ⅔ of cable
Speedometer head . . . . MO

CONVERTIBLE TOP



Pivot pins . . . . MO

Piston rods . . . . HB

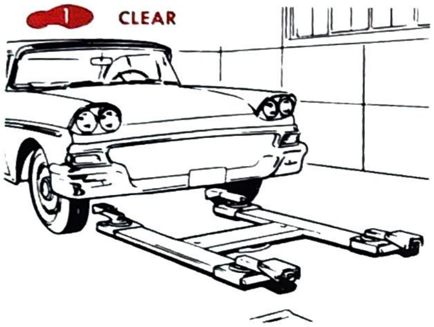


Window zipper . . . . SE

GENERAL FRAME ENGAGING LIFT CHART

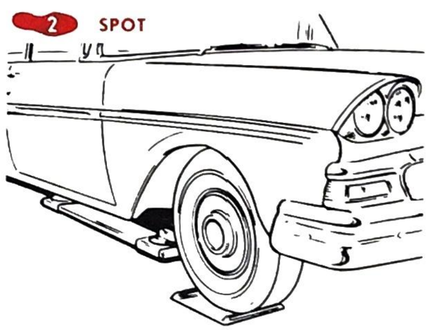
Most American cars prior to 1957 can be lifted on a frame engaging lift without adapters. Later models with wide or "X" frames or unitized bodies require special procedures. Added care must be used to lift cars with features such as air suspension, low-mounted exhaust systems or where brake lines are exposed. Follow the procedures on this chart and position adapters at points shown by red rectangles on Lubrication Charts.

1 CLEAR



Make sure all parts of the car will clear lift and adapter members before driving car over lift.

2 SPOT

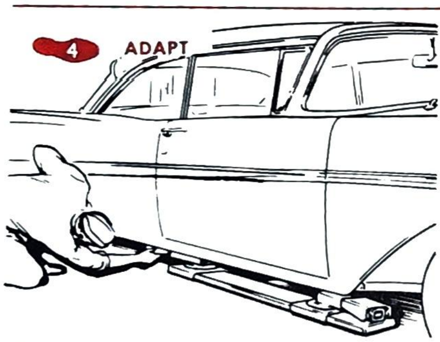


Spot wheel as shown above. On extremely short and long wheelbase cars it may be necessary to spot wheel behind or in front of the wheel plate.

3 CHEK POSITION

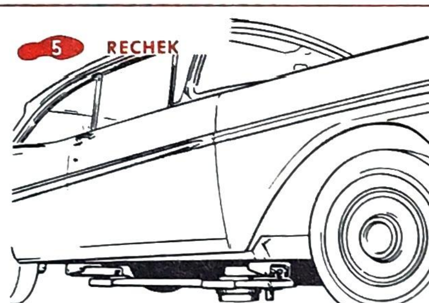
Check the lubrication chart for correct contact position on frame or body under which to place the adapters.

4 ADAPT



Swing adapters into proper position after spotting car. Be sure adapters contact at points shown on Lubrication Chart.

5 RECHEK

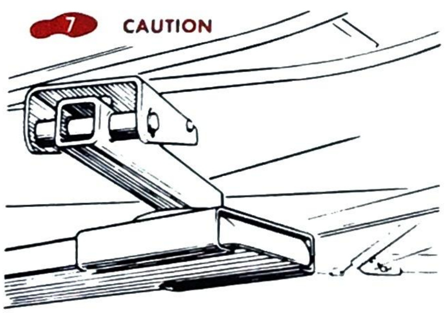


Raise lift slowly until adapters or lift contact understructure of car. Recheck adapter position and contact area.

6 CAUTION

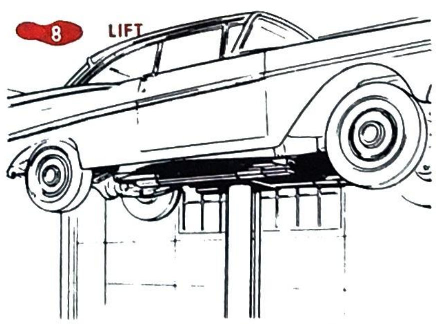
Observe precautions for air suspension equipped cars. See Lubrication Chart for lift precautions.

7 CAUTION



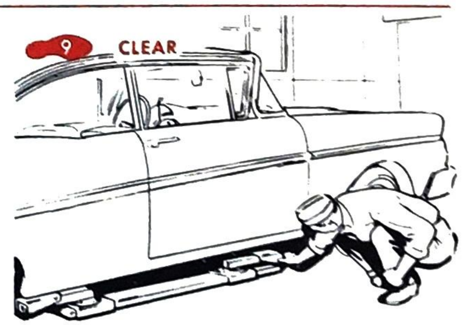
On 1962 and earlier American Motors cars be sure adapter engages two downward-turned body flanges near the rear wheels. Flange may be distorted if only one is contacted.

8 LIFT

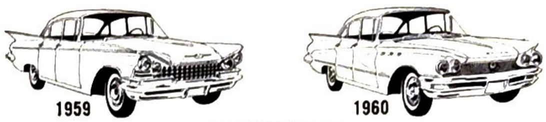


Lift car to working level. Be sure safety support is in position to keep hoist from accidentally lowering.

9 CLEAR



When car is lowered move adapters back to original position to allow plenty of clearance so car can be driven from lift.



BUICK V-8
1959-60 All Models

HOOD RELEASE: Front

TUNE-UP DATA
See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	60	70

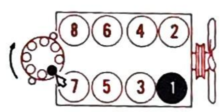
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
1959 Manual Trans. ....minimum 150
Auto. Trans. ....minimum 185
1960 Manual Trans. ....minimum 150
Auto. Trans. ....minimum 180
Regular gas engine ....minimum 160
Variations should not exceed 15 psi

SPARK PLUGS
AC 44S
Gap: .035"
Torque: 25-30 ft. lb.

IGNITION POINTS
Delco
Gap: .016"
Dwell angle: 29°-31° (30° preferred)

CONDENSER
Delco
Capacity: .18-.23 mfd

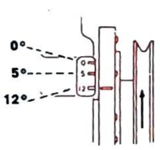
Cylinder Numbering Sequence



Firing Order: 1, 2, 7, 8, 4, 5, 6, 3

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Set idle speed to 400 rpm, transmission in NEUTRAL
5. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
6. Reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
Manual Trans. 5°; Auto. Trans. 12°; at 400 rpm

FUEL PUMP
AC model 4706
Pressure: 5¼-6½ lb. at 450 and 1000 rpm
Volume: Not required

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER			
1959 2-bbl. WGD	¾	index	index
1959-60 4-bbl. AFB	1½	—	1 rich
1960 2-bbl. WGD	¾	1 lean	index
ROCHESTER			
1959-60 4-bbl. 4GC	1½	—	index
STROMBERG			
1959 2-bbl. WW-2	1	—	1 lean
1960 2-bbl. WW-2	1	—	index

ENGINE IDLE SPEED
Manual Trans. 485 rpm*
Auto. Trans. 485 rpm in NEUTRAL*
*Make certain idle compensator valve is closed, if so equipped

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
1959	19	16½
1960	18½	17

Cooling system pressure, 15 pounds

★ **Power Steering Reservoir** ....AF
Fill to level mark, when oil is warm

5 **Fuel Filter** ....Replace

★ **Battery** ....Test and fill

5 **Carburetor Accelerating Pump Shaft** ......MO
Carter carburetor on LeSabre: Fill 1 screw hole on top and 1 hole under cover

★ **Manual Steering Gear** (plug)..........90 MP

Air Cleaner Element...............Service
5 Wire gauze............Wash and oil MO
5 Dry type ....Clean
15 Dry type ....Replace
6M Polyurethane.......Wash and oil 10W MO

★ **Brake Master Cylinder** (plug)............HB
Fill to ½-1 inch below top of fill hole. 1959 power brake models, fill cap near lower end of steering column. Fill to 1 inch below top of tube

★ **Front Suspension and Steering Linkage**..........(17 fittings) CL

★ **Clutch Release Equalizer Shaft** CL

TRANSMISSION, Manual. 90 MP
80 grade when consistently below −10°
★ Maintain level to fill plug hole
CAPACITY 2½ pints
DRAIN and REFILL Not recommended

5 **Propeller Shaft Spline** CL
Remove plug, rotate shaft until fitting appears
Lubricate sparingly — about one ounce

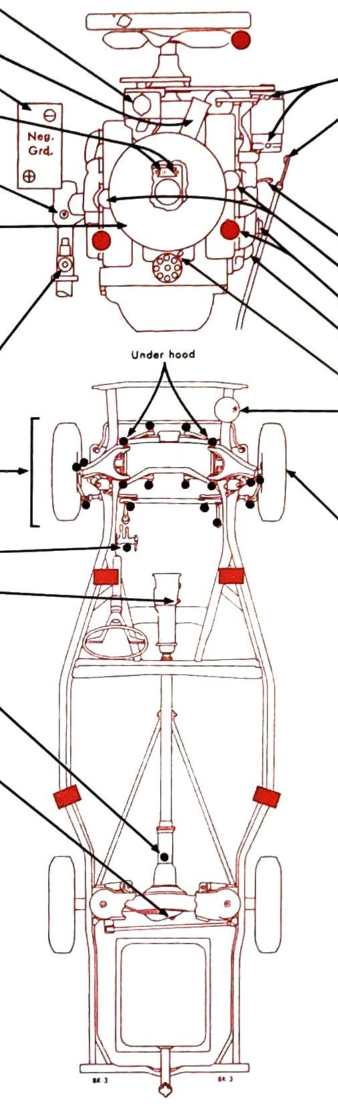
DIFFERENTIAL ....90 MP*
80 grade when consistently below −10°
★ Maintain level to ¼ inch below fill plug hole
CAPACITY 6½ pints
DRAIN and REFILL Not recommended
POSITIVE TRACTION IDENTIFICATION:
1959, metal plate under fill plug or ⊕ stamped on bottom edge of carrier housing
1960, metal plate above fill plug
* For Positive Traction differential, use special lubricant Part No. 531536, conforming to Buick Specification No. 723

GAS TANK ....Gallons
All models 20

TIRES ....Pressure Front Rear

	Front	Rear
7.60-15, 8.00-15	24	24
Station wagon	24	30

For temperatures below +32° increase pressure 2 pounds
5 Rotate tires, Method A, then balance wheels



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE ...."MS" MO

Above +32°	20,20W	10W-30,10W-20
Above 0°	10W	10W-30,10W-20
Below 0°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Generator (2 oil cups).............10W MO ★

TRANSMISSION, Automatic. AF
Check level, engine idling, PARK position.......★

CAPACITY, quarts	Initial Refill	Total Refill
All except Triple Turbine	3	12
Triple Turbine	3	12½

DRAIN and REFILL 25
Remove 2 converter plugs and disconnect fill pipe

Crankcase Dipstick..............Check level

Oil Fill Caps..............Wash and oil MO 4

Manifold Heat Control Valve Shaft........MH ★

Oil Filter (under car)...............Replace 4
Add extra quart oil

Distributor Shaft (oil cup)...........10W MO ★

Air Suspension Tank Valve.............Drain ★
Depress valve core to expel condensation. Below +32°, exhaust tank air supply thru valve. Remove pressure line on top of tank from under hood and pour ½ pint of methyl alcohol into tank thru opening

Front Wheel Bearings...........Repack WB 10
Initial torque, 30 ft. lb. while rotating wheel; final adjustment, 12½ ft. lb.

LIFTING CAUTION — AIR SUSPENSION
Before jacking or placing car on lift, CLOSE SHUT-OFF VALVE at rear of radiator upper support. Open valve after lowering

BRAKE ADJUSTMENT
With the brakes cold, if the brake pedal can be depressed more than 2" (3" for high-speed driving) with standard brakes or more than 1" (1½" for high-speed driving) with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:
1. Using suitable tool, turn star wheel adjuster to expand shoes until wheel can just be turned by hand. Drag should be equal at all wheels
2. Back off adjuster 15 notches
3. Repeat procedure at each wheel

Bleeding sequence: LF, RF, LR, RR

KEY TO INTERVALS
★ Every 1,000 miles
4 Every 4,000 miles
Oil Filter: Every 4,000 miles or 6 months
5 Every 5,000 miles
10 Every 10,000 miles
15 Every 15,000 miles
25 Every 25,000 miles
6M Every 6 months

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CL Chassis Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
MH Manifold Heat Control Valve Solvent Buick Part No. 980108
MO Motor Oil
MP Multi-Purpose Gear Lubricant Meeting Specification MIL-L-2105B
WB Wheel Bearing Grease

BUICK V-8

1961-62 LeSabre, Invicta, Electra, Electra 225

1961 1962

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	60	70

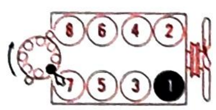
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
Regular gas engine ....minimum 160
Others ....minimum 180
Variations should not exceed 15 psi

SPARK PLUGS
AC: 44S; high-speed operation, 42; low speed, 45S
Gap: .035"
Torque: 25-30 ft. lb.

IGNITION POINTS
Delco
Gap: .016"
Dwell angle: 29°-31° (30° preferred)

CONDENSER
Delco
Capacity: .18-.23 mfd

Cylinder Numbering Sequence

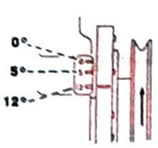


Firing Order: 1, 2, 7, 8, 4, 5, 6, 3

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Disconnect vacuum hose and tape manifold opening
3. Connect tachometer
4. Connect timing light to No. 1 spark plug or distributor cap tower
5. Set idle speed to 400 rpm, transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum hose and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
12° at 400 rpm

FUEL PUMP
AC model HE
Pressure: 4¾-6½ lb. at idle rpm
Volume: Not required

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Auto. Trans.
CARTER		
4-bbl. AFB	¾	index
ROCHESTER		
2-bbl. 2GC	1½	1 rich*
4-bbl. 4GC	1½	index
STROMBERG		
2-bbl. WW-2	1½	index
* 1962, index		

ENGINE IDLE SPEED
525 rpm in NEUTRAL or PARK*
Air Cond. 575 rpm in NEUTRAL*
*Make certain idle compensator valve is closed, if so equipped

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
All models	18½	17

Cooling system pressure, 15 pounds

Fuel Filter
★ Glass bowl ....Clean
12 Element ....Replace
More frequent service may be necessary if contaminated fuel is used

★ **Battery** ....Test and fill

★ **Power Steering Reservoir** ....AF
Fill to level mark, when oil is warm

8 **Air Cleaner Element** ....Service
Polyurethane....Wash and oil 10W-30 MO

★ **Manual Steering Gear** (plug)..........90 MP

★ **Brake Master Cylinder** (cap)................HB
1961, fill to ½-1 inch below top of fill hole; 1962, to ⅛ inch below top of fill hole

★ **Distributor Shaft** (oil cup) 1961......10W MO

★ **Front Suspension and Steering Linkage**...(8, 9 or 13 fittings) CL

10 **Propeller Shaft Spline**..................LM
Rotate shaft until plug aligns with hole in frame. Remove plug. Use special adapter

5 **Constant Velocity Joint**..................LM
Rotate shaft until depressed type fitting aligns with hole in frame. Use special adapter

DIFFERENTIAL ....90 MP*
80 grade when consistently below −10°
★ Maintain level to ¼ inch below fill plug hole
CAPACITY 4½ pints
DRAIN and REFILL Not recommended
POSITIVE TRACTION IDENTIFICATION:
Metal tag under fill plug
* For Positive Traction differential, use special lubricant Part No. 531536, conforming to Buick Specification No. 723

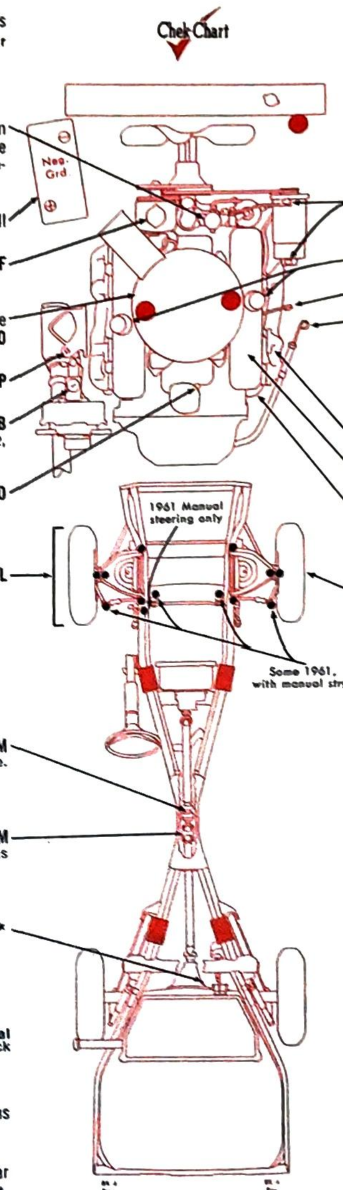
GAS TANK ....Gallons
All models 20

TIRES..........Pressure Front Rear

	Front	Rear
7.60-15 LeSabre, Invicta...........	24	24*
8.00-15 Electra, Invicta............	24	24

* Estate Wagon and heavily loaded cars, 28
For temperatures below +32° increase pressure 2 pounds

5 Rotate tires, Method A, then balance wheels



■ Position for lift adapter
● Lubrication fitting
● Cooling system drain

CRANKCASE..............."MS" MO

Above +32°.........20,20W		10W-30,10W-20
Above 0°............10W		10W-30,10W-20
Below 0°............5W		5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Generator (1 or 2 oil cups)..........10W MO ★
Add only 8 to 10 drops to each oil cup
1962 with alternator, no lubrication

Oil Fill Caps.............Wash and oil MO 4

Crankcase Dipstick..............Check level

TRANSMISSION, Automatic..AF
Check level, engine idling, PARK position........★

CAPACITY, quarts	Initial Refill	Total Refill
1961	3	12
1962	2½	2½

DRAIN and REFILL
1961 25 1962 24
1961, remove 2 converter plugs, disconnect fill pipe
1962, disconnect fill pipe. Do not drain converter

Manifold Heat Control Valve Shaft........MH ★

PCV System Valve..........................CC 8
Remove and clean valve and hose

Oil Filter (under car)..................Replace 4
Add extra quart oil

Front Wheel Bearings............Repack WB 10
Initial torque, 19 ft. lb. while rotating wheel; back off until bearing is loose; second torque, 11 ft. lb.; back off 1/12 to 1/6 turn and insert cotter pin

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed to within 2" (3" for high-speed driving) of floorboard with standard brakes or within 1" (1½" for high-speed driving) of floorboard with power brakes, engine running, the need for service is indicated

Adjust the brakes as follows:

1. Using suitable tool, turn star wheel adjuster to expand shoes until wheel can just be turned by hand. Drag should be equal at all wheels
2. Back off adjuster 15 notches (1 or 2 additional notches if drag persists)
3. Repeat procedure at each wheel

Bleeding sequence: LF, RF, LR, RR

KEY TO INTERVALS

★ Every 1,000 miles
4 Every 4,000 miles
Oil Filter: Every 4,000 miles or 6 months
5 Every 5,000 miles
8 Every 8,000 miles
10 Every 10,000 miles
12 Every 12,000 miles or 12 months
24 Every 24,000 miles
25 Every 25,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CC Carburetor Cleaner
CL Chassis Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
LM Lithium Grease, EP No. 1
MH Manifold Heat Control Valve Solvent Buick Part No. 980108
MO Motor Oil
MP Multi-Purpose Gear Lubricant Meeting Specification MIL-L-2105B
WB Wheel Bearing Grease

1961 1962

BUICK V-8
1961-62 Special and Skylark

HOOD RELEASE: Front

TUNE-UP DATA
See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22F	42

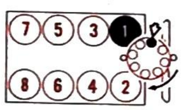
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
Standard CR ....minimum 160
High CR, Skylark..................minimum 175
Variations should not exceed 15 psi

SPARK PLUGS
AC: 2-bbl. carb., 45FF6; 4-bbl. carb., Skylark, 44FFS
Gap: .035"
Torque: 15-20 ft. lb.*
* Use motor oil on threads

IGNITION POINTS
Delco
Gap: .016"
Dwell angle: 29°-31° (30° preferred)

CONDENSER
Delco
Capacity: .18-.23 mfd

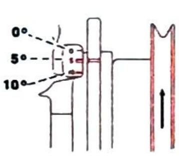
Cylinder Numbering Sequence



Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Disconnect distributor vacuum line and tape manifold opening
3. Connect tachometer
4. Connect timing light to No. 1 spark plug or distributor cap tower
5. Set engine speed to 1050 rpm, transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
7½° at 1050 rpm (preferred); or 5° at 400 rpm may be used

FUEL PUMP
AC model HQ
Pressure: 4-5¼ lb. at idle rpm
Volume: Not required

CARBURETOR ADJUSTMENT

ROCHESTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
2-bbl. 2GC	1½*	index	index
4-bbl. 4GC	1½	index	index

* 1962, 1 turn

ENGINE IDLE SPEED
Manual Trans. 525 rpm*
Auto. Trans. 525 rpm in NEUTRAL*
Air Cond. 575 rpm in NEUTRAL*
*Make certain idle compensator valve is closed, if so equipped

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
All models	13½	12

Cooling system pressure, 15 pounds

Fuel Filter
[★] Glass bowl ....Clean
[12] Element ....Replace
More frequent service may be necessary if contaminated fuel is used

[★] **Power Steering Reservoir**................AF
Fill to FULL mark on dipstick, when oil is warm

[4] **Oil Fill Cap**...............Wash and oil MO

Crankcase Dipstick..............Check level

[★] **Manual Steering Gear** (plug)..........90 MP

[★] **Brake Master Cylinder** (cap)..............HB
1961, fill to ½-1 inch below top of fill hole; 1962, to ⅛ inch below top of fill hole

[★] **Front Suspension and Steering Linkage**.........(17 fittings) CL

[★] **Clutch Release Equalizer Shaft**...........CL

TRANSMISSION, Manual MP, MO
90MP, or 40 or 50MO
[★] Maintain level to fill plug hole
CAPACITY 3-speed, 2¼ pints; 4-speed, 2½ pints
DRAIN and REFILL Not recommended

[10] **Propeller Shaft Spline** (plug).............LM
Remove plug. Use special adapter

DIFFERENTIAL ....90 MP*
80 grade when consistently below −10°
[★] Maintain level to ¼ inch below fill plug hole
CAPACITY 2 pints
DRAIN and REFILL Not recommended
POSITIVE TRACTION IDENTIFICATION:
Metal tag under fill plug
* For Positive Traction differential, use special lubricant Part No. 531536, conforming to Buick Specification No. 723

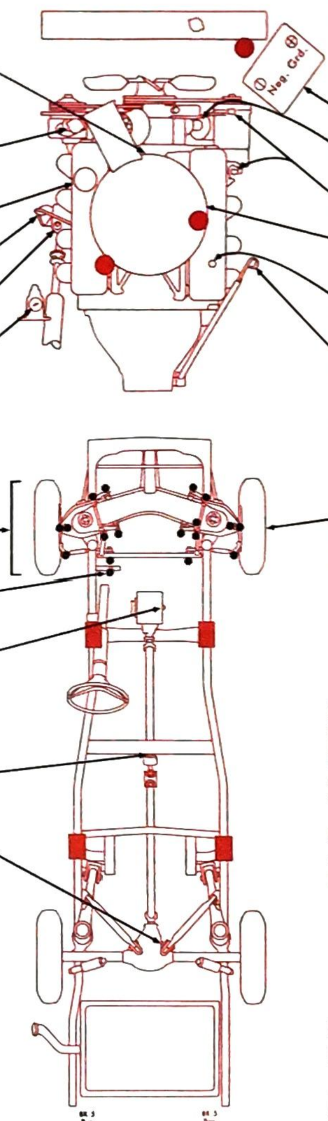
GAS TANK ....Gallons
All models 16

TIRES

Pressure	Front	Rear
6.00-15	22	22*
6.50-13	22	22*
7.00-13	22	22*

* Estate Wagon and heavily loaded cars, 26
For temperatures below +32° increase pressure 2 pounds

[5] Rotate tires, Method A, then balance wheels



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE.............."MS" MO

Above +32°.........20,20W		10W-30,10W-20
Above 0°.............10W		10W-30,10W-20
Below 0°.............5W		5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery......................Test and fill [★]

Oil Filter (under car)..................Replace [4]
Add extra quart oil

Generator (1 or 2 oil cups)..........10W MO [★]
Add only 8 to 10 drops to each oil cup

Air Cleaner Element.................Service
Polyurethane.....Wash and oil 10W-30 MO [8]

PCV System Valve......................CC [8]
Remove and clean valve and hose

TRANSMISSION, Automatic..AF
Check level, engine idling, PARK position .... [★]
CAPACITY 6 quarts, refill approx. 2 quarts
Do not overfill
DRAIN and REFILL............................ [25]
Remove oil pan

Front Wheel Bearings............Repack WB [10]
Initial torque, 19 ft. lb. while rotating wheel; back off until bearing is loose; second torque, 11 ft. lb.; back off ⅙ to ¼ turn and insert cotter pin

BRAKE ADJUSTMENT
With the brakes cold, if the brake pedal can be depressed to within 2" (3" for high-speed driving) of floorboard with standard brakes or within 1" (1½" for high-speed driving) of floorboard with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:
1. Using suitable tool, turn star wheel adjuster to expand shoes until wheel can just be turned by hand. Drag should be equal at all wheels
2. Back off adjuster 15 notches (1 or 2 additional notches if drag persists)
3. Repeat procedure at each wheel

Bleeding sequence: LF, RF, LR, RR

KEY TO INTERVALS
[★] Every 1,000 miles
[4] Every 4,000 miles
Oil Filter: Every 4,000 miles or 6 months
[5] Every 5,000 miles
[8] Every 8,000 miles
[10] Every 10,000 miles
[12] Every 12,000 miles or 12 months
[25] Every 25,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS
AF Automatic Transmission Fluid, Type A, Suffix A
CC Carburetor Cleaner
CL Chassis Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
LM Lithium Grease, EP No. 1
MO Motor Oil
MP Multi-Purpose Gear Lubricant
Standard differential lubricant must meet Specification MIL-L-2105B
WB Wheel Bearing Grease

BUICK V-6
1962 Special

HOOD RELEASE: Front

TUNE-UP DATA
See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22F	42

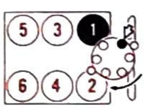
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All .... minimum 160
Variations should not exceed 15 psi

SPARK PLUGS
AC 44S
Gap: .035"
Torque: 25 ft. lb.

IGNITION POINTS
Delco
Gap: .016"
Dwell angle: 29°-31° (30° preferred)

CONDENSER
Delco
Capacity: .18-.23 mfd

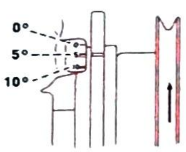
Cylinder Numbering Sequence



Firing Order: 1, 6, 5, 4, 3, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Disconnect distributor vacuum line and tape manifold opening
3. Connect tachometer
4. Connect timing light to No. 1 spark plug
5. Set engine speed to 1050 rpm, transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
7½° at 1050 rpm (preferred); or 5° at 400 rpm may be used

FUEL PUMP
AC model HQ
Pressure: 4-5¼ lb. at idle rpm
Volume: Not required

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
ROCHESTER 2-bbl. 2GC	1	index	index

ENGINE IDLE SPEED
Manual Trans. 525 rpm*
Auto. Trans. 525 rpm in NEUTRAL*
Air Cond. 575 rpm in NEUTRAL*
*Make certain idle compensator valve is closed, if so equipped

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	12	10½

Cooling system pressure, 15 pounds

★ **Fuel Filter** .... Clean glass bowl
Air conditioned models only
12 Air conditioned models .... Replace element
12 All other models .... Clean element
Located at carburetor inlet
More frequent service may be necessary if contaminated fuel is used

★ **Power Steering Reservoir** .... AF
Fill to FULL mark on dipstick, when oil is warm

★ **Manual Steering Gear** (plug) .... 90 MP

Crankcase Dipstick .... Check level

4 **Oil Fill Cap** .... Wash and oil MO

★ **Brake Master Cylinder** (cap) .... HB
Fill to ⅛ inch below top of fill hole

★ **Front Suspension and Steering Linkage** .... (17 fittings) CL

★ **Clutch Release Equalizer Shaft** CL

TRANSMISSION, Manual . MP, MO
90MP, or 40 or 50MO
★ Maintain level to fill plug hole
CAPACITY 3-speed, 2¼ pints; 4-speed, 2½ pints
DRAIN and REFILL Not recommended

10 **Propeller Shaft Spline** (plug) .... LM
Remove plug. Use special adapter

DIFFERENTIAL .... 90 MP*
80 grade when consistently below −10°
★ Maintain level to ¼ inch below fill plug hole
CAPACITY 2 pints
DRAIN and REFILL Not recommended
POSITIVE TRACTION IDENTIFICATION:
Metal tag under fill plug
* For Positive Traction differential, use special lubricant Part No. 531536, conforming to Buick Specification No. 723

GAS TANK .... Gallons
All models 16

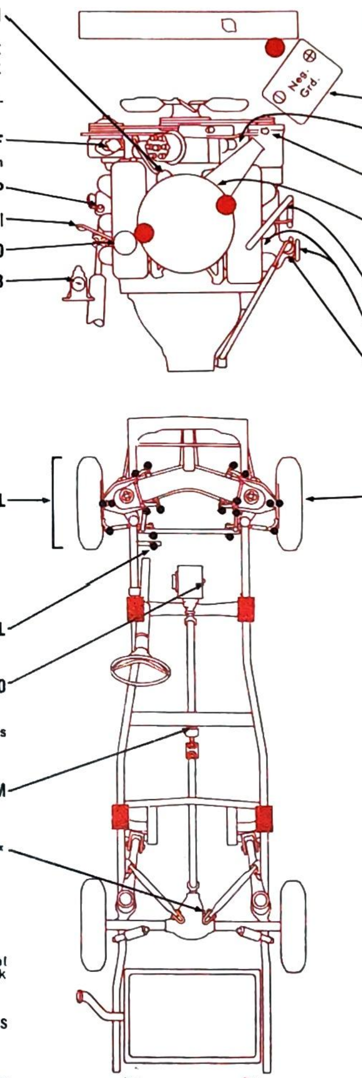
TIRES .... Pressure Front Rear

	Front	Rear
6.00-15	22	22*
6.50-13	22	22*
7.00-13	22	22*

* Estate Wagon and heavily loaded cars, 26
For temperatures below +32° increase pressure 2 pounds

5 Rotate tires, Method A, then balance wheels

Chek-Chart



■ Position for lift adapter
• Lubrication fitting
● Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	20,20W	10W-30,10W-20
Above 0°	10W	10W-30,10W-20
Below 0°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill ★

Oil Filter (under car) .... Replace 4
Add extra quart oil

Generator (oil cup) .... 10W MO ★
Add only 8 to 10 drops

Air Cleaner Element .... Service
Polyurethane .... Wash and oil 10W-30 MO 8

PCV System Valve .... CC 8
Remove and clean valve and hose

Manifold Heat Control Valve Shaft .... MH ★

TRANSMISSION, Automatic .. AF
Check level, engine idling, PARK position .... ★
CAPACITY 6 quarts, refill approx. 2 quarts
Do not overfill
DRAIN and REFILL 25
Remove oil pan

Front Wheel Bearings .... Repack WB 10
Initial torque, 19 ft. lb. while rotating wheel; back off until bearing is loose; second torque, 11 ft. lb.; back off ⅙ to ¼ turn and insert cotter pin

BRAKE ADJUSTMENT
With the brakes cold, if the brake pedal can be depressed to within 2" (3" for high-speed driving) of floorboard with standard brakes or within 1" (1½" for high-speed driving) of floorboard with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:
1. Using suitable tool, turn star wheel adjuster to expand shoes until wheel can just be turned by hand. Drag should be equal at all wheels
2. Back off adjuster 15 notches (1 or 2 additional notches if drag persists)
3. Repeat procedure at each wheel

Bleeding sequence: LF, RF, LR, RR

KEY TO INTERVALS
★ **Every 1,000 miles**
4 **Every 4,000 miles**
Oil Filter: Every 4,000 miles or 6 months
5 **Every 5,000 miles**
8 **Every 8,000 miles**
10 **Every 10,000 miles**
12 **Every 12,000 miles or 12 months**
25 **Every 25,000 miles**

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS
AF Automatic Transmission Fluid, Type A, Suffix A
CC Carburetor Cleaner
CL Chassis Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
LM Lithium Grease, EP No. 1
MH Manifold Heat Control Valve Solvent
Buick Part No. 980108
MO Motor Oil
MP Multi-Purpose Gear Lubricant
Standard differential lubricant must meet Specification MIL-L-2105B
WB Wheel Bearing Grease

BUICK V-6
1963 Special

HOOD RELEASE: Front

TUNE-UP DATA
See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22F	44

COMPRESSION PRESSURE
(at cranking speed with throttle open) psi

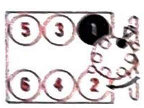
All ....minimum 160
Variations should not exceed 15 psi

SPARK PLUGS
AC 44S; high-speed driving or hauling trailers, 42 Commercial
Gap: .035"
Torque: 30 ft. lb.

IGNITION POINTS
Delco
Gap: .016"
Dwell angle: 29°-31° (30° preferred)

CONDENSER
Delco
Capacity: .18-.23 mfd

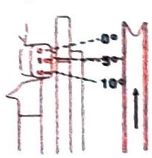
Cylinder Numbering Sequence



Firing Order: 1, 6, 5, 4, 3, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Disconnect distributor vacuum line and tape manifold opening
3. Connect tachometer
4. Connect timing light to No. 1 spark plug
5. Set engine speed to 1050 rpm, transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
7½° at 1050 rpm (preferred); or 5° at 400 rpm may be used

FUEL PUMP
AC model HQ
Pressure: 4-5¼ lb. at idle rpm
Volume: Not required

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
ROCHESTER 2-bbl. 2GC	1	index	1 rich

ENGINE IDLE SPEED
Manual Trans. 550 rpm*
Auto. Trans. 550 rpm in DRIVE*
Air Cond. 550 rpm in DRIVE with unit turned OFF*
*Make certain idle compensator valve is closed, if so equipped

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	12	10½

Cooling system pressure, 15 pounds

[12] **Fuel Filter** .... Clean
Located at carburetor inlet
More frequent service may be necessary if contaminated fuel is used

[★] **Power Steering Reservoir** .... PS
Fill to FULL mark on dipstick, when oil is warm

[★] **Manual Steering Gear (plug)** .... 90 MP

Crankcase Dipstick .... Check level

[12] **Oil Fill Cap** .... Wash and oil MO

[★] **Brake Master Cylinder (cap)** .... HB
Fill to ¼ inch below top of reservoir

[6] **Front Suspension** .... (12 fittings) CL
Note: If Buick Spec. No. 742 is not used lubrication interval should not exceed 2,000 miles

[C] **Steering Linkage** .... (4 plugs) CL
If squeaks develop, remove plugs, install fittings and lubricate with Buick Spec. No. 742. Thereafter lubricate every 6,000 miles or 6 months; if Buick Spec. No. 742 is not used, lubrication interval should not exceed 2,000 miles

TRANSMISSION, Manual .MP, MO
90MP, or 40 or 50MO
[★] Maintain level to fill plug hole
CAPACITY 3-speed, 2¼ pints; 4-speed, 2½ pints
DRAIN and REFILL Not recommended

[12] **Propeller Shaft Spline (plug)** .... LM
Remove plug. Use special adapter

[★] **Constant Velocity Joint** .... LM
Depressed-type fitting, use special adapter
Early models, no lubrication

DIFFERENTIAL .... 90 MP*
80 grade when consistently below −10°
[★] Maintain level to ¼ inch below fill plug hole
CAPACITY 2 pints
DRAIN and REFILL Not recommended
POSITIVE TRACTION IDENTIFICATION:
Metal tag under fill plug
* For Positive Traction differential, use special lubricant Part No. 531536, conforming to Buick Specification No. 723

GAS TANK .... Gallons
All models 16

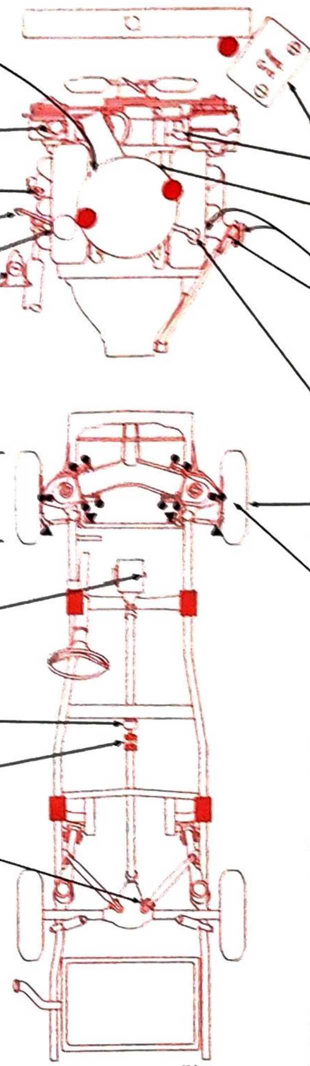
TIRES

Pressure	Front	Rear
6.00-15	22	22*
6.50-13	22	22*
7.00-13	22	22*

* Sedan or Coupe for long distances with heavily loaded trunk, 200 pounds or more, and station wagon, 28
For temperatures below +32° increase pressure 2 pounds

[★] Rotate tires, Method A, then balance wheels

Chek-Chart



Position for lift adapter
▲ Lubrication fitting
• Prepacked bearing
Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	20, 20W	10W-30
Above 0°	10W	5W-20
Below 0°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill [★]

Oil Filter (under car) .... Replace [6]
Add extra quart oil

Air Cleaner Element .... Service
Polyurethane .... Wash and oil MO [12]

Manifold Heat Control Valve Shaft .... MH [★]

TRANSMISSION, Automatic .... AF
Check level, engine idling, PARK position .... [★]
CAPACITY 6 quarts, refill approx. 2 quarts
Do not overfill
DRAIN and REFILL .... [24]
Remove oil pan

PCV System Valve .... Replace [6]
Also remove and clean hose

Front Wheel Bearings .... Repack WB [C]
Initial torque, 19 ft. lb. while rotating wheel; back off until bearing is loose; second torque, 11 ft. lb.; back off ⅛ to ¼ turn and insert cotter pin

Brake Self-adjusting Mechanism (all wheels) .BL [18]
Coat lightly star wheel point of contact and 6 shoe rim rest surfaces

BRAKE ADJUSTMENT
Brakes are self-adjusting. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, make initial adjustment as follows:
1. Hold self-adjusting actuator off adjusting screw and turn adjusting screw until wheel can just be turned by hand. Drag should be equal at all wheels
2. Back off adjusting screw 30 notches (1 or 2 additional notches if drag persists)
3. Repeat procedure at each wheel

Bleeding sequence: LF, RF, LR, RR

KEY TO INTERVALS
[★] Every 6,000 miles
[6] Every 6,000 miles or 6 months
[12] Every 12,000 miles
[18] Every 18,000 miles or 18 months
[24] Every 24,000 miles
[C] Conditional service
Lubricate steering linkage only if squeaks develop
Repack front wheel bearings only when drums are removed for other service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A, Suffix A
- **BL** Self-adjusting Brake Lubricant — Delco Moraine Specification DM-6807 or equivalent
- **CL** Chassis Lubricant — Buick Specification No. 742
- **HB** Hydraulic Brake Fluid, Heavy-Duty
- **LM** Lithium Grease, EP No. 1
- **MH** Manifold Heat Control Valve Solvent — Buick Part No. 980108
- **MO** Motor Oil
- **MP** Multi-Purpose Gear Lubricant — Meeting Specification MIL-L-2105B
- **PS** Power Steering Fluid — Buick Part No. 1099021 or equivalent
- **WB** Wheel Bearing Grease

BUICK V-8
1963 Special and Skylark

HOOD RELEASE: Front

TUNE-UP DATA
See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	61

COMPRESSION PRESSURE
(at cranking speed with throttle open) — psi

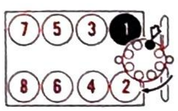
Standard CR (2-bbl. carb.)........minimum 160
High CR, Skylark (4-bbl. carb.)....minimum 175
Variations should not exceed 15 psi

SPARK PLUGS
AC: 2-bbl. carb., 45FFS; 4-bbl. carb., Skylark, 44FFS; high-speed driving or hauling trailers, 42FF
Gap: .035"
Torque: 20 ft. lb.*
* Use motor oil on threads

IGNITION POINTS
Delco
Gap: .016"
Dwell angle: 29°-31° (30° preferred)

CONDENSER
Delco
Capacity: .18-.23 mfd

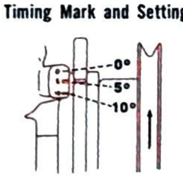
Cylinder Numbering Sequence



Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Disconnect distributor vacuum line and tape manifold opening
3. Connect tachometer
4. Connect timing light to No. 1 spark plug or distributor cap tower
5. Set engine speed to 1050 rpm, transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 7½° at 1050 rpm (preferred); or 5° at 400 rpm may be used

FUEL PUMP
AC model HQ
Pressure: 4-5¼ lb. at idle rpm
Volume: Not required

CARBURETOR ADJUSTMENT

ROCHESTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
2-bbl. 2GC	1	index	index
4-bbl. 4GC	1½	index	index

ENGINE IDLE SPEED
Manual Trans. 500 rpm*
Auto. Trans. 500 rpm in DRIVE*
Air Cond. 550 rpm in DRIVE with unit turned OFF*
*Make certain idle compensator valve is closed, if so equipped

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM.........Quarts

	With Heater	Without Heater
All models	13½	12

Cooling system pressure, 15 pounds

★ **Power Steering Reservoir**...............PS
Fill to FULL mark on dipstick, when oil is warm

Fuel Filter
12 Standard V-8 ....Clean
Located at carburetor inlet
24 Others ....Replace
More frequent service may be necessary if contaminated fuel is used

Crankcase Dipstick.............Check level

★ **Manual Steering Gear** (plug)..........90 MP

12 **Oil Fill Cap**...............Wash and oil MO

★ **Brake Master Cylinder** (cap).............HB
Fill to ⅛ inch below top of reservoir

6 **Front Suspension**...........(12 fittings) CL
Note: If Buick Spec. No. 742 is not used lubrication interval should not exceed 2,000 miles

C **Steering Linkage**..............(4 plugs) CL
If squeaks develop, remove plugs, install fittings and lubricate with Buick Spec. No. 742. Thereafter lubricate every 6,000 miles or 6 months; if Buick Spec. No. 742 is not used, lubrication interval should not exceed 2,000 miles

TRANSMISSION, Manual MP, MO
90MP, or 40 or 50MO
★ Maintain level to fill plug hole
CAPACITY 3-speed, 2¼ pints; 4-speed, 2½ pints
DRAIN and REFILL Not recommended

12 **Propeller Shaft Spline** (plug)............LM
Remove plug. Use special adapter

★ **Constant Velocity Joint**...............LM
Depressed-type fitting, use special adapter
Early models, no lubrication

DIFFERENTIAL ....90 MP*
80 grade when consistently below −10°
★ Maintain level to ¼ inch below fill plug hole
CAPACITY 2 pints
DRAIN and REFILL Not recommended
POSITIVE TRACTION IDENTIFICATION:
Metal tag under fill plug
* For Positive Traction differential, use special lubricant Part No. 531536, conforming to Buick Specification No. 723

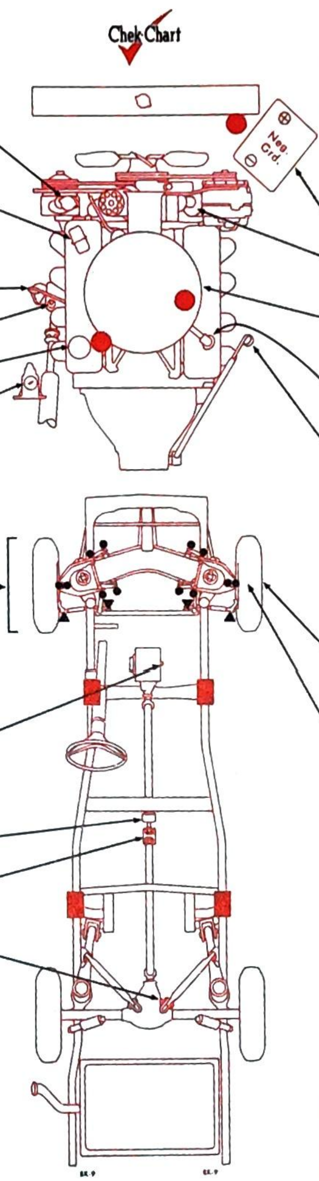
GAS TANK.................Gallons
All models 16

TIRES

	Pressure Front	Rear
6.00-15	22	22*
6.50-13	22	22*
7.00-13	22	22*

* Sedan or Coupe for long distances with heavily loaded trunk, 200 pounds or more, and station wagon, 28
For temperatures below +32° increase pressure 2 pounds

★ Rotate tires, Method A, then balance wheels



■ Position for lift adapter
▲ Lubrication fitting
• Prepacked bearing
● Cooling system drain

CRANKCASE............."MS" MO

Above +32°	20,20W	10W-30
Above 0°	10W	5W-20
Below 0°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery.......................Test and fill ★

Oil Filter (under car)...............Replace 6
Add extra quart oil

Air Cleaner Element...............Service
Polyurethane..........Wash and oil MO 12

PCV System Valve.................Replace 6
Also remove and clean hose

TRANSMISSION, Automatic . AF
Check level, engine idling, PARK position....... ★
CAPACITY 6 quarts, refill approx. 2 quarts
Do not overfill
DRAIN and REFILL......................... 24
Remove oil pan

Front Wheel Bearings...........Repack WB C
Initial torque, 19 ft. lb. while rotating wheel; back off until bearing is loose; second torque, 11 ft. lb.; back off ⅛ to ¼ turn and insert cotter pin

Brake Self-adjusting Mechanism (all wheels). BL 18
Coat lightly star wheel point of contact and 6 shoe rim rest surfaces

BRAKE ADJUSTMENT
Brakes are self-adjusting. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, make initial adjustment as follows:
1. Hold self-adjusting actuator off adjusting screw and turn adjusting screw until wheel can just be turned by hand. Drag should be equal at all wheels
2. Back off adjusting screw 30 notches (1 or 2 additional notches if drag persists)
3. Repeat procedure at each wheel

Bleeding sequence: LF, RF, LR, RR

KEY TO INTERVALS
★ Every 6,000 miles
6 Every 6,000 miles or 6 months
12 Every 12,000 miles
18 Every 18,000 miles or 18 months
24 Every 24,000 miles
C Conditional service
Lubricate steering linkage only if squeaks develop
Repack front wheel bearings only when drums are removed for other service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS
AF Automatic Transmission Fluid, Type A, Suffix A
BL Self-adjusting Brake Lubricant
Delco Moraine Specification DM-6807 or equivalent
CL Chassis Lubricant
Buick Specification No. 742
HB Hydraulic Brake Fluid, Heavy-Duty
LM Lithium Grease, EP No. 1
MO Motor Oil
MP Multi-Purpose Gear Lubricant
Meeting Specification MIL-L-2105B
PS Power Steering Fluid
Buick Part No. 1099021 or equivalent
WB Wheel Bearing Grease

HOOD RELEASE: Front

BUICK V-8

1963-64 All Except Special and Skylark

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All except 1964 LeSabre 300 eng.	27	70
1964 LeSabre 300 eng.	24	61

COMPRESSION PRESSURE

(at cranking speed with throttle open)

		psi
Regular gas engine	minimum	160
Premium gas engine	minimum	180

Variations should not exceed 15 psi

SPARK PLUGS

AC 44S except 1964 LeSabre 300 eng., 44FFS
All except 1964 LeSabre 300 eng., for high-speed driving or hauling trailers, 42 Commercial
Gap: .035"
Torque: All except 1964 LeSabre 300 eng., 30 ft. lb.; 1964 LeSabre 300 eng., 20 ft. lb.*
* Use motor oil on thread

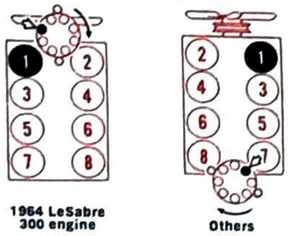
IGNITION POINTS

Delco Gap: .016"
Dwell angle: 29°-31° (30° preferred)

CONDENSER

Delco Capacity: .18-.23 mfd

Cylinder Numbering Sequence

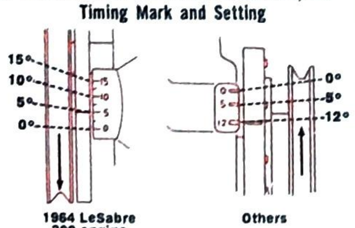


Firing Order:
1964 LeSabre 300 eng. 1, 8, 4, 3, 6, 5, 7, 2
Others 1, 2, 7, 8, 4, 5, 6, 3

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Disconnect distributor vacuum line and tape manifold opening
3. Connect tachometer
4. Connect timing light to No. 1 spark plug or distributor cap tower
5. Set engine to idle speed
6. Observe timing at crankshaft damper, turn distributor to obtain specified setting
7. Reconnect vacuum line and reset idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
1963: Man. Trans. 5°; Auto. Trans. 12°; at idle
1964: 300 eng. at 550 rpm, 2½°
401, 425 engs. at 500 rpm, 2½°
425 eng. with dual 4-bbl. and Auto. Trans., at 500 rpm, 12°

FUEL PUMP

AC model HE except 1964 LeSabre 300 eng., model JU
Pressure: 4¾-6½ lb. at idle rpm except 1964 LeSabre 300 eng., 4-5¼ lb. at idle rpm; at carburetor height
Volume: Not required

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER			
2/4-bbl. AFB	2	index	index
4-bbl. AFB	¾	index	index
ROCHESTER			
2-bbl. 2GC	1½	index	index*
4-bbl. 4GC	1½	index	index**

* 1964, 2 rich ** 1964 LeSabre 300 eng. 2 rich

ENGINE IDLE SPEED

1963: 500 rpm* (in DRIVE)
Air Cond. 550 rpm* (in DRIVE), unit OFF
1964: 300 eng., 550 rpm* (in DRIVE)
Air Cond. 600 rpm* (in DRIVE), unit OFF
401, 425 engs. 500 rpm* (in DRIVE)
Air Cond. 550 rpm* (in DRIVE), unit OFF
* Idle compensator valve closed, if so equipped

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
LeSabre, except Estate Wagons	15	13½
All others	18½	17

Cooling system pressure, 15 pounds

[★] **Battery** .... Test and fill
Riviera battery installed in reverse position
LeSabre with 300-cu. in. engine, right side

[24] **Fuel Filter** .... Replace
More frequent replacement may be necessary if contaminated fuel is used
1964 300-cu. in. engine, left side front

[★] **Power Steering Reservoir** .... PS
Fill to level mark, when oil is warm

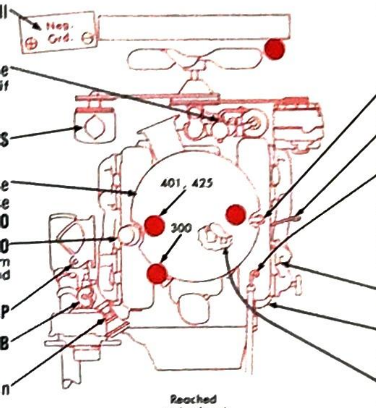
Air Cleaner Element .... Service
[12] Dry type .... Replace
[12] Polyurethane .... Wash and oil MO

[12] **Oil Fill Cap** .... Wash and oil MO
If cap is sealed type, wash and oil PCV system breather filter on valve cover. Also remove and clean hose

[★] **Manual Steering Gear** (plug) .... 90 MP

[★] **Brake Master Cylinder** (cap) .... HB
Fill to ⅛ inch below top of reservoir

[★] **Electro-Cruise Power Unit Air Filter** .... Clean



CRANKCASE .... "MS" MO

Above +32°	20,20W	10W-30
Above 0°	10W	5W-20
Below 0°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

PCV System Valve .... Replace [6]
Also remove and clean hose

Crankcase Dipstick .... Check level
1964 300-cu. in. engine, left side

TRANSMISSION, Automatic .... AF

Check level, engine idling, PARK position .... [★]
CAPACITY, quarts — Initial Refill / Total Refill
All models .... 2 / 2½
DRAIN and REFILL .... [24]
1963, disconnect fill pipe; do not drain converter. 1964, remove oil pan

Manifold Heat Control Valve Shaft .... MH [★]
Not on 1964 300-cu. in. engine

Oil Filter (under car) .... Replace [6]
Add extra quart oil. 1964 300-cu. in. engine, right side forward

Choke Housing Vent Filter .... Clean [12]
On 1964 300-cu. in. engine

[6] **Front Suspension** .... (8 fittings) CL

Steering Linkage CL
[6] 1964 (4 fittings)
[C] Some 1964 (1 plug in idler arm)
[C] 1963 (5 plugs)
Plug-equipped points: If squeaks develop, remove plug, install fitting and lubricate with Buick Specification No. 742. Thereafter lubricate every 6,000 miles or 6 months

TRANSMISSION, Manual .... MP, MO

90MP, or 40 or 50MO
[★] Maintain level to fill plug hole
CAPACITY 3-speed, 3½ pints, except with 300-cu. in. engine, 2 pints; 4-speed, 2½ pints
DRAIN and REFILL Not recommended

[12] **Propeller Shaft Spline** .... LM
Rotate shaft until plug aligns with hole in frame
Remove plug. Use special adapter

[★] **Constant Velocity Joints** .... LM
Not on 1963 Riviera; rear joint on 1964 Riviera only
To reach center joint, rotate shaft until depressed-type fitting aligns with hole in frame. Use special adapter

DIFFERENTIAL .... 90 MP*

80 grade when consistently below −10°
[★] Maintain level to ¼ inch below fill plug hole
CAPACITY 4½ pints
DRAIN and REFILL Not recommended
POSITIVE TRACTION IDENTIFICATION:
Metal tag under fill plug
* For Positive Traction differential, use special lubricant Part No. 531536, conforming to Buick Specification No. 723

GAS TANK .... Gallons

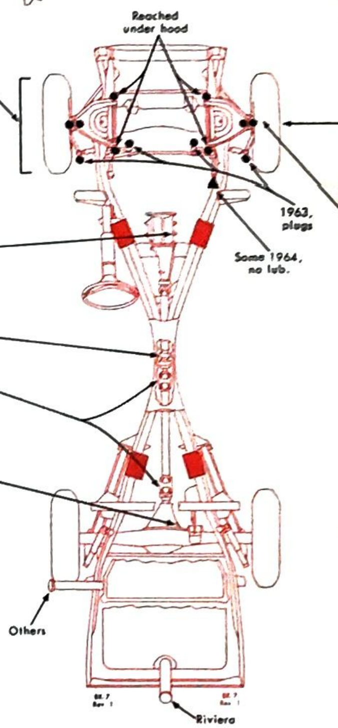
All models 20

TIRES

Pressure	Front	Rear
7.10-15	24▲	24*
7.60-15	24▲	24*
8.00-15	24	24*

▲ LeSabre coupes and sedans, 22; with air conditioning, 24
* Sedan or coupe for long distances with heavily loaded trunk, 200 pounds or more, 28-32. Estate Wagon, 28
For temperatures below +32° increase pressure 2 pounds

[★] Rotate tires, Method A
[12] Check wheel balance



Front Wheel Bearings .... Repack WB [C]
Initial torque, 19 ft. lb. while rotating wheel; back off until bearing is loose; second torque, 11 ft. lb.; back off 1/12 to 1/6 turn and insert cotter pin

Brake Self-adjusting Mechanism (all wheels) .... BL [18]
Coat lightly star wheel point of contact and 6 shoe rim rest surfaces

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, make initial adjustment as follows:

1. Hold self-adjusting actuator off adjusting screw and turn adjusting screw until wheel can just be turned by hand. Drag should be equal at all wheels
2. Back off adjusting screw 30 notches (1 or 2 additional notches if drag persists)
3. Repeat procedure at each wheel

Bleeding sequence: LF, RF, LR, RR

■ Position for lift adapter
▲ Prepacked bearing
● Lubrication fitting
● Cooling system drain

KEY TO INTERVALS

[★] Every 6,000 miles
[6] Every 6,000 miles or 6 months
[12] Every 12,000 miles
[18] Every 18,000 miles or 18 months
[24] Every 24,000 miles
[C] Conditional service
Steering Linkage: Lubricate plug-equipped points only if squeaks develop
Repack front wheel bearings only when drums are removed for other service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CL Chassis Lubricant
Buick Specification No. 742 or equivalent. If conventional chassis lubricant is used, interval should not exceed 2,000 miles
BL Self-adjusting Brake Lubricant
Delco Moraine Specification DM-6807 or equivalent
HB Hydraulic Brake Fluid, Heavy-Duty
LM Lithium Grease, EP No. 1
MH Manifold Heat Control Valve Solvent
Buick Part No. 980108
MO Motor Oil
MP Multi-Purpose Gear Lubricant
Meeting Specification MIL-L-2105B
PS Power Steering Fluid
Buick Part No. 1099021 or equivalent
WB Wheel Bearing Grease

BUICK V-6
1964 Special and Skylark

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	61

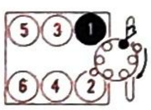
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All ....minimum 160
Variations should not exceed 15 psi

SPARK PLUGS
AC 44S; high-speed driving or hauling trailers, 42 Commercial
Gap: .035"
Torque: 30 ft. lb.

IGNITION POINTS
Delco
Gap: .016"
Dwell angle: 29°-31° (30° preferred)

CONDENSER
Delco
Capacity: .18-.23 mfd

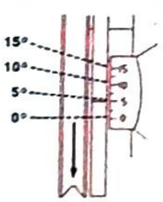
Cylinder Numbering Sequence



Firing Order: 1, 6, 5, 4, 3, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Disconnect distributor vacuum line and tape manifold opening
3. Connect tachometer
4. Connect timing light to No. 1 spark plug
5. Set engine speed to idle rpm
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 5°

FUEL PUMP
AC model JU
Pressure: 4-5¼ lb. at idle rpm
Volume: Not required

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
ROCHESTER 1-bbl. 1BC	2	index	index

ENGINE IDLE SPEED
Manual Trans. 550 rpm*
Auto. Trans. 550 rpm* in DRIVE
Air Cond. 600 rpm* in DRIVE with unit turned OFF
* Make certain idle compensator valve is closed, if so equipped

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
All models	13	11½

Cooling system pressure, 15 pounds

★ **Manual Steering Gear** ....90 MP
Fill thru top cover inside cap screw marked "Check Lube"

12 **Fuel Filter** ....Clean
Located at carburetor inlet
More frequent service may be necessary if contaminated fuel is used

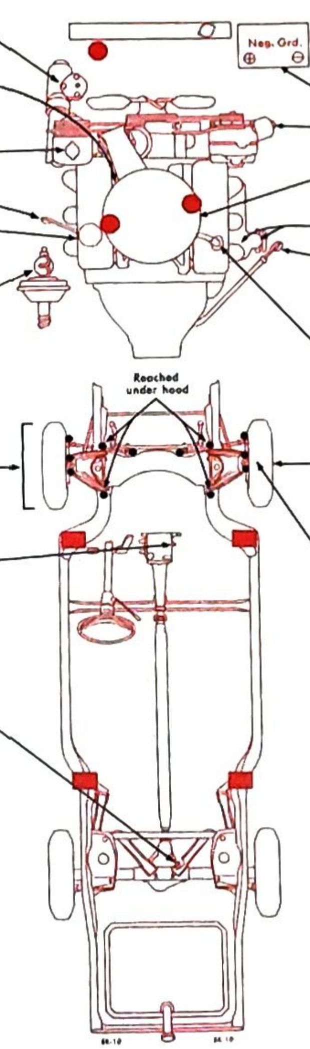
★ **Power Steering Reservoir** ....PS
Fill to level mark, when oil is warm

Crankcase Dipstick ....Check level

12 **Oil Fill Cap** ....Wash and oil MO
If cap is sealed type, wash and oil PCV system breather filter on valve cover. Also remove and clean hose

★ **Brake Master Cylinder (cap)** ....HB
Fill to ¼ inch below top of reservoir

Chek-Chart



CRANKCASE ...."MS" MO

Above +32°	20,20W	10W-30
Above 0°	10W	5W-20
Below 0°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery ....Test and fill ★

Oil Filter (under car) ....Replace 6
Add extra quart oil

Air Cleaner Element ....Service
Polyurethane..........Wash and oil MO 12

Manifold Heat Control Valve Shaft ....MH ★

TRANSMISSION, Automatic . . AF
Check level, engine idling, PARK position .... ★

CAPACITY, quarts	Initial Refill	Total Refill
All models	2	2½

DRAIN and REFILL........................... 24
Remove oil pan

PCV System Valve ....Replace 6
Also remove and clean hose

6 **Front Suspension and Steering Linkage** ....(12 fittings) CL

Front Wheel Bearings ....Repack WB C
Initial torque, 19 ft. lb. while rotating wheel; back off until bearing is loose; second torque, 11 ft. lb.; back off 1/12 to 1/6 turn and insert cotter pin

TRANSMISSION, Manual MP, MO
90MP, or 40 or 50MO
★ Maintain level to fill plug hole
CAPACITY 3-speed, 2 pints; 4-speed, 2½ pints
DRAIN and REFILL Not recommended

Brake Self-adjusting Mechanism (all wheels). BL 18
Coat lightly star wheel point of contact and 6 shoe rim rest surfaces

DIFFERENTIAL............90 MP*
80 grade when consistently below −10°
★ Maintain level to ¼ inch below fill plug hole
CAPACITY 2½ pints
DRAIN and REFILL Not recommended
POSITIVE TRACTION IDENTIFICATION:
Metal tag attached to rear cover
* For Positive Traction differential, use special lubricant Part No. 531536, conforming to Buick Specification No. 723

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, make initial adjustment as follows:
1. Hold self-adjusting actuator off adjusting screw and turn adjusting screw until wheel can just be turned by hand. Drag should be equal at all wheels
2. Back off adjusting screw 30 notches (1 or 2 additional notches if drag persists)
3. Repeat procedure at each wheel

Bleeding sequence: LF, RF, LR, RR

GAS TANK ....Gallons
All models 20

TIRES ....Pressure Front Rear

	Front	Rear
6.50-14, 7.00-14	24	24*
Station wagons: 7.00-14, 7.50-14....	24	28

* Sedan or coupe for long distances with heavily loaded trunk, 200 pounds or more, 28-32

For temperatures below +32° increase pressure 2 pounds

★ Rotate tires, Method A
12 Check wheel balance

Position for lift adapter
Lubrication fitting
Cooling system drain

KEY TO INTERVALS
★ Every 6,000 miles
6 Every 6,000 miles or 6 months
12 Every 12,000 miles
18 Every 18,000 miles or 18 months
24 Every 24,000 miles
C Conditional service
Repack front wheel bearings only when drums are removed for other service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A

CL Chassis Lubricant
Buick Specification No. 742 or equivalent. If conventional chassis lubricant is used, interval should not exceed 2,000 miles

BL Self-adjusting Brake Lubricant
Delco Moraine Specification DM-6807 or equivalent

HB Hydraulic Brake Fluid, Heavy-Duty

MH Manifold Heat Control Valve Solvent
Buick Part No. 980108

MO Motor Oil

MP Multi-Purpose Gear Lubricant
Meeting Specification MIL-L-2105B

PS Power Steering Fluid
Buick Part No. 1099021 or equivalent

WB Wheel Bearing Grease

BUICK V-8

1964 Special and Skylark

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	61

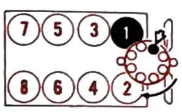
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
Standard CR (2-bbl. carb.)..........minimum 160
High CR, Skylark (4-bbl. carb.)....minimum 180
Variations should not exceed 15 psi

SPARK PLUGS
AC 44FFS; high-speed driving or hauling trailers, 42FF
Gap: .035"
Torque: 20 ft. lb.*
* Use motor oil on threads

IGNITION POINTS
Delco
Gap: .016"
Dwell angle: 29°-31° (30° preferred)

CONDENSER
Delco
Capacity: .18-.23 mfd

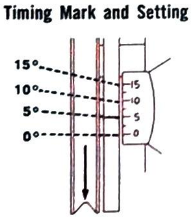
Cylinder Numbering Sequence



Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Disconnect distributor vacuum line and tape manifold opening
3. Connect tachometer
4. Connect timing light to No. 1 spark plug or distributor cap tower
5. Set engine speed to idle rpm
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 2½°

FUEL PUMP
AC model JU
Pressure: 4-5¼ lb. at idle rpm
Volume: Not required

CARBURETOR ADJUSTMENT

ROCHESTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
2-bbl. 2GC	1½	index	index
4-bbl. 4GC	1½	index	2 rich

ENGINE IDLE SPEED
Manual Trans. 550 rpm*
Auto. Trans. 550 rpm* in DRIVE
Air Cond. 600 rpm* in DRIVE with unit turned OFF
* Make certain idle compensator valve is closed, if so equipped

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM..........Quarts

	With Heater	Without Heater
All models	15	13½

Cooling system pressure, 15 pounds

[★] **Manual Steering Gear**..............90 MP
Fill thru top cover inside cap screw marked "Check Lube"

[24] **Fuel Filter**......................Replace
More frequent service may be necessary if contaminated fuel is used

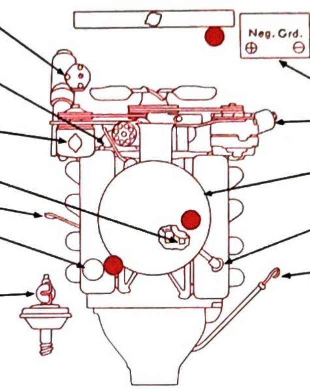
[★] **Power Steering Reservoir**..............PS
Fill to level mark, when oil is warm

[12] **Choke Housing Vent Filter**............Clean

Crankcase Dipstick............Check level

[12] **Oil Fill Cap**...............Wash and oil MO
If cap is sealed type, wash and oil PCV system breather filter on valve cover. Also remove and clean hose

[★] **Brake Master Cylinder** (cap)...............HB
Fill to ⅛ inch below top of reservoir



CRANKCASE...............“MS” MO

Above +32°	20,20W	10W-30
Above 0°	10W	5W-20
Below 0°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery......................Test and fill [★]

Oil Filter (under car)................Replace [6]
Add extra quart oil

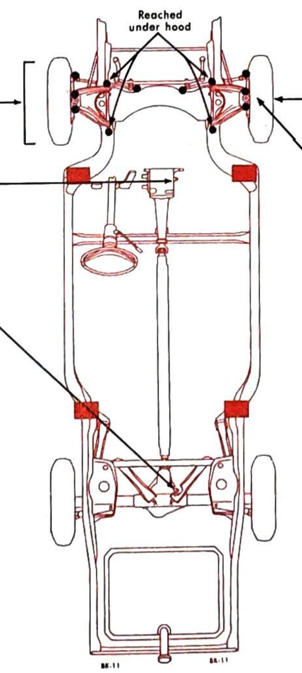
Air Cleaner Element................Service
Polyurethane...........Wash and oil MO [12]

PCV System Valve.................Replace [6]
Also remove and clean hose

TRANSMISSION, Automatic..AF
Check level, engine idling, PARK position....... [★]

CAPACITY, quarts	Initial Refill	Total Refill
All models	2	2½

DRAIN and REFILL.............................. [24]
Remove oil pan



[6] **Front Suspension and Steering Linkage**.........(12 fittings) CL

Front Wheel Bearings............Repack WB [C]
Initial torque, 19 ft. lb. while rotating wheel; back off until bearing is loose; second torque, 11 ft. lb.; back off 1/12 to 1/6 turn and insert cotter pin

TRANSMISSION, Manual.MP, MO
90MP, or 40 or 50MO
[★] Maintain level to fill plug hole
CAPACITY 3-speed, 2 pints; 4-speed, 2½ pints
DRAIN and REFILL Not recommended

Brake Self-adjusting Mechanism (all wheels).BL [18]
Coat lightly star wheel point of contact and 6 shoe rim rest surfaces

DIFFERENTIAL............90 MP*
80 grade when consistently below −10°
[★] Maintain level to ¼ inch below fill plug hole
CAPACITY 2½ pints
DRAIN and REFILL Not recommended
POSITIVE TRACTION IDENTIFICATION:
Metal tag attached to rear cover
* For Positive Traction differential, use special lubricant Part No. 531536, conforming to Buick Specification No. 723

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, make initial adjustment as follows:
1. Hold self-adjusting actuator off adjusting screw and turn adjusting screw until wheel can just be turned by hand. Drag should be equal at all wheels
2. Back off adjusting screw 30 notches (1 or 2 additional notches if drag persists)
3. Repeat procedure at each wheel

Bleeding sequence: LF, RF, LR, RR

GAS TANK..................Gallons
All models 20

TIRES...........Pressure Front Rear

	Front	Rear
6.50-14, 7.00-14	24	24*
Station wagons: 7.00-14, 7.50-14	24	28

* Sedan or coupe for long distances with heavily loaded trunk, 200 pounds or more, 28-32
For temperatures below +32° increase pressure 2 pounds

[★] Rotate tires, Method A
[12] Check wheel balance

Position for lift adapter
Lubrication fitting
Cooling system drain

KEY TO INTERVALS

[★] Every 6,000 miles
[6] Every 6,000 miles or 6 months
[12] Every 12,000 miles
[18] Every 18,000 miles or 18 months
[24] Every 24,000 miles
[C] Conditional service
Repack front wheel bearings only when drums are removed for other service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A

CL Chassis Lubricant
Buick Specification No. 742 or equivalent. If conventional chassis lubricant is used, interval should not exceed 2,000 miles

BL Self-adjusting Brake Lubricant
Delco Moraine Specification DM-6807 or equivalent

HB Hydraulic Brake Fluid, Heavy-Duty

MO Motor Oil

MP Multi-Purpose Gear Lubricant
Meeting Specification MIL-L-2105B

PS Power Steering Fluid
Buick Part No. 1099021 or equivalent

WB Wheel Bearing Grease

CADILLAC
1961-62 All Models


1961


1962

HOOD RELEASE: Front

TUNE-UP DATA
See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	60	70

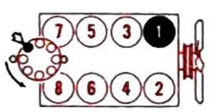
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 165-185

SPARK PLUGS
AC 44
Gap: .035"
Torque: 25 ft. lb.

IGNITION POINTS
Delco
Gap: Proper gap will be obtained with dwell angle of 30°
Dwell angle: 28°-32° (30° preferred)

CONDENSER
Delco
Capacity: .18-.23 mfd

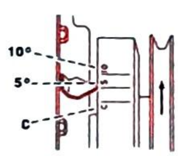
Cylinder Numbering Sequence



Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape line opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 5°

FUEL PUMP
AC model 4622
Pressure: 5¼-6½ lb. at 480 rpm
Volume: 1 pint in 17 strokes at cranking speed

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Auto. Trans.
CARTER 4-bbl. AFB	2½	1 rich
ROCHESTER 4-bbl. 4GC	1½-2½	1 rich

ENGINE IDLE SPEED
480 rpm in DRIVE
Air Cond. 900 rpm in NEUTRAL with unit turned ON

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
75 series	20¾	18½
All other models	19¼	18½

Cooling system pressure, 13½-16½ pounds

[★] **Power Steering Reservoir** .... PS
Fill to 1½ inches from top of reservoir

Crankcase Dipstick .... Check level

Air Cleaner Element .... Service
[TY] Polyurethane .... Inspect
Inspect for dust leakage and proper seating. If damaged, replace
[30] Polyurethane .... Replace

[★] **Brake Master Cylinder** (1 or 2 screw caps) .. HB
Fill to ¾ inch from top of filler neck or to level mark

[★] **Manifold Heat Control Valve Shaft** ..... Service
Keep valve shaft free

[★] **Distributor Shaft** (oil cup) 1961 ...... 10W MO

CRANKCASE .... "MS" MO

Above +32°	10W-30	20,20W
Above 0°	10W-30	10W
Below 0°	5W-20	5W

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill [★]

Generator (2 oil cups) .... MO [★]

Fuel Filter Element .... Replace [TY]

Oil Fill Cap .... Wash and oil MO [★]

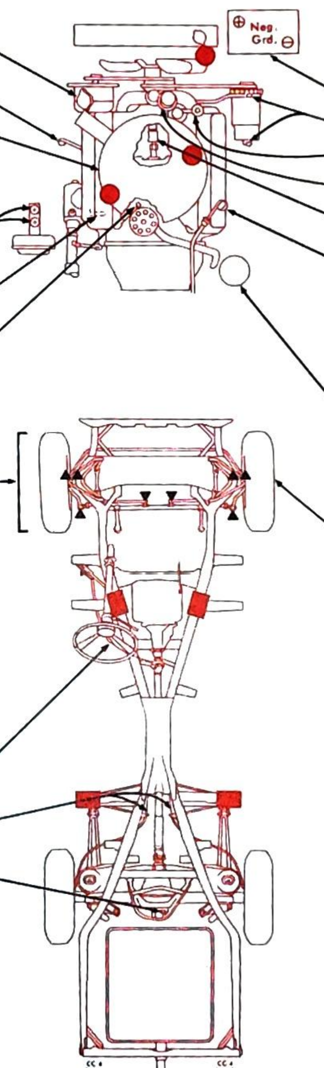
PCV System Valve .... CC [★]
Remove and clean valve and hose

TRANSMISSION, Automatic .. AF
Check level, engine idling, PARK position .... [★]

CAPACITY, quarts	Initial Refill	Total Refill
All models	7	9

DRAIN and REFILL .... [16]
Severe service drain every 9,000 miles
Initial drain 30,000 miles, except severe service, 16,000 miles
Remove 1 coupling plug and transmission plug

Oil Filter (under car) .... Replace [★]
Add extra quart oil



[★] **Front Suspension** (4 plugs) .... BJ
Inspect seal, if damaged, replacement is necessary. Before installing new seal, flush joint with approx. 1 or 2 oz. of lubricant, wipe off surplus. Install new plug and seal

[★] **Steering Linkage** (4 plugs) LL
Inspect seal, if damaged, replacement is necessary. After replacing seal, remove plug, use special gun or adapter. Install new plug

Front Wheel Bearings .... Repack WB [30]
Initial torque, 30 ft. lb.; final adjustment, back off nut ¼ turn then loosen just enough to insert cotter pin

[TY] **Parking Brake Cable 1962** .... 10W MO
Sparingly at point where cable enters conduit

[TY] **Parking Brake Cables** .... 10W MO
Sparingly at point where cable enters conduit

DIFFERENTIAL .... 90 MP*
[TY] Maintain level to within ½ inch of fill plug hole 1961, to level of fill plug hole
CAPACITY 5 pints
DRAIN and REFILL Not recommended
CONTROLLED DIFFERENTIAL IDENTIFICATION:
Code letter "G" following axle ratio identification on differential carrier

GAS TANK .... Gallons

1961 Commercial	20
All other models	21
1962 Comm. and Models 6289, 6389	21
All other models	26

TIRES .... Pressure

	Front	Rear
8.00-15, 8.20-15	24*	24*
8.20-15, 6 ply	28*	28*
8.90-15, 8 ply	24*	32*

* Sustained speeds above 75 mph, add 4 pounds

[★] Rotate tires, Method A, then balance wheels

Position for lift adapter
Do not use frame contact hoist or bumper jack on 75 series and Commercial vehicles
▲ Prepacked bearing
● Cooling system drain

BRAKE ADJUSTMENT

Brakes are self-adjusting. No adjustment normally required. If the brakes have been relined, or the adjustment disturbed, make initial adjustment as follows:

1. Remove wheel, check front wheel bearings for proper adjustment, and that all points of the parking brake system are free
2. Tighten star wheel until drum can just be rotated with two-foot bar placed between the studs
3. Disengage adjuster pawl from star wheel with a hooked tool and back off star wheel 40 notches with screwdriver or brake adjuster tool
4. Install wheel, drive car alternately backward and forward, applying the brakes moderately in each direction until pedal travel does not exceed 1⅞" on moderate, approximately 30-pound, pedal application
5. Repeat procedure at each wheel, except for making bearing adjustment at rear wheels

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

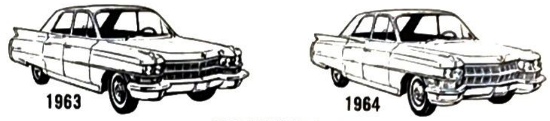
[★] Every 4,000 miles
[16] Every 16,000 miles
[30] Every 30,000 miles
[TY] Twice yearly

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant, Cadillac Part No. 1474829
CC Carburetor Cleaner
HB Hydraulic Brake Fluid, Heavy-Duty
LL Steering Linkage Lubricant, Cadillac Part No. 1474830
MO Motor Oil
MP* Multi-Purpose Gear Lubricant, Meeting Specification MIL-L-2105B
PS Power Steering Fluid, Cadillac Part No. 1099021
WB Wheel Bearing Grease

* Controlled Differential, use Cadillac Part No. 1098970; may also be used in standard differential



HOOD RELEASE: Front

CADILLAC
1963-64 All Models

TUNE-UP DATA
See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1963	60	70
1964	60	73

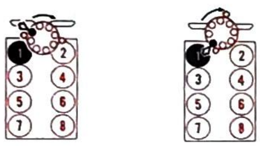
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 165-185

SPARK PLUGS
AC 44
Gap: .035"
Torque: 25 ft. lb.

IGNITION POINTS
Delco
Gap: Proper gap will be obtained with dwell angle of 30°
Dwell angle: 28°-32° (30° preferred)

CONDENSER
Delco
Capacity: .18-.23 mfd

Cylinder Numbering Sequence

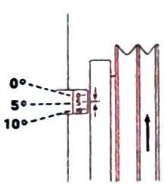


1963 1964

Firing Order: 1, 8, 7, 2, 6, 5, 4, 3

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape line opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 5°

FUEL PUMP
AC model 6744
Pressure: 1963, 5¼-6¼ lb.; 1964, 5¼-6½ lb.; at idle rpm
Volume: 1 pint in 17 strokes at cranking speed

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Auto. Trans.
CARTER 4-bbl. AFB	2½	1 rich*
ROCHESTER 4-bbl. 4GC	1½-2½	1 rich*

* 1964, index

ENGINE IDLE SPEED
480-500 rpm in DRIVE
Air Cond. 900 rpm in NEUTRAL with unit turned ON

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
75 series	19¾	16½
All other models....	17¼	16¼

With air conditioning, add 1 quart
Cooling system pressure, 13½-16½ pounds

TY Power Steering Reservoir .... PS
Fill to FULL mark on dipstick, fluid warm

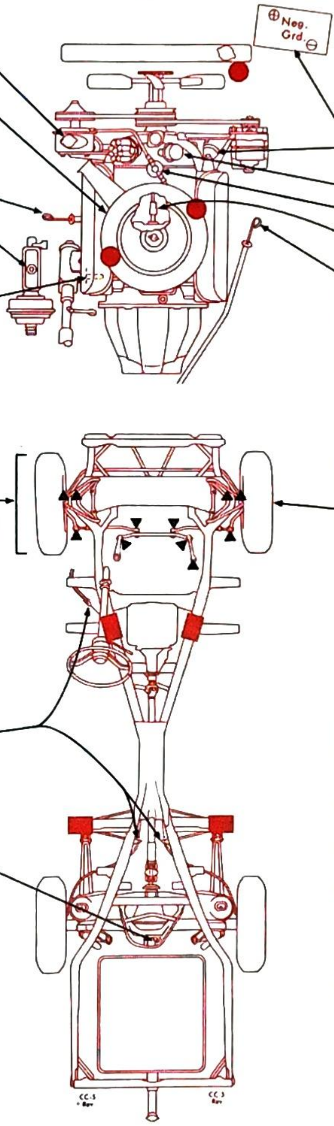
Air Cleaner Element .... Service
TY Polyurethane (1963); Dry type (1964). Inspect
Inspect for dust leakage and proper seating. If damaged, replace
30 Polyurethane (1963); Dry type (1964). Replace

Crankcase Dipstick .... Check level

★ Brake Master Cylinder .... HB
(1963, 2 screw caps; 1964, cover)
1963, fill to ¾ inch below top of fill cap boss; 1964, within ¼ inch to ½ inch of top of reservoir

★ Manifold Heat Control Valve Shaft ..... Service
Keep valve shaft free

Chek-Chart



CRANKCASE .... "MS" MO

Above +32°	10W-30	20,20W
Above 0°	5W-20	10W
Below 0°	5W-20	5W

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill ★
Oil Filter .... Replace 6
Add extra quart oil
Oil Fill Cap .... Wash and oil MO ★
Fuel Filter Element .... Replace TY
PCV System Valve .... CC ★
Remove and clean valve and hose

TRANSMISSION, Automatic .. AF
Check level, engine idling, PARK position .... ★
Turbo Hydra-Matic, twist-lock dipstick on fill tube

CAPACITY, quarts	Initial Refill	Total Refill
Hydra-Matic	7	9
All 1963; 1964 62 series except convertibles, 75 series, 68 commercial chassis		
Turbo Hydra-Matic	2	2¼
1964 60 and 63 series, convertibles		

DRAIN and REFILL 24
Severe service drain every 12,000 miles
Initial drain 30,000 miles, except severe service, 16,000 miles. Remove pan and install new strainer at first 30,000 miles only
Hydra-Matic, remove 1 coupling plug and transmission plug; Turbo Hydra-Matic, disconnect fill tube

★ Front Suspension .... (4 plugs) BJ
Inspect seal, if damaged, replacement is necessary. Before installing new seal, flush joint with approx. 1 or 2 oz. of lubricant, wipe off surplus. Install new plug and seal

★ Steering Linkage .... (7 sealed bearings)
Inspect seal if damaged, or if there is evidence of looseness, replace entire pivot assembly

Front Wheel Bearings .... Repack WB 30
Initial torque, 30 ft. lb.; final adjustment, back off nut ¼ turn then loosen just enough to insert cotter pin

TY Parking Brake Cables Inspect .... 10W MO
Lubricate cables and linkage only if adjustment is required. Lubricate cables sparingly at point where cable enters conduit

BRAKE ADJUSTMENT
Brakes are self-adjusting. No adjustment normally required. If the brakes have been relined, or the adjustment disturbed, make initial adjustment as follows:
1. Remove wheel, check front wheel bearings for proper adjustment, and that all points of the parking brake system are free
2. Tighten star wheel until drum can just be rotated with two-foot bar placed between the studs
3. Disengage adjuster pawl from star wheel with a hooked tool and back off star wheel 40 notches with screwdriver or brake adjuster tool
4. Install wheel, drive car alternately backward and forward, applying the brakes moderately in each direction until pedal travel does not exceed 1⅞" on moderate, approximately 30-pound, pedal application
5. Repeat procedure at each wheel, except for making bearing adjustment at rear wheels

Bleeding sequence: RR, LR, RF, LF

DIFFERENTIAL .... 90 MP*
★ Inspect, check level only if leakage is evident. Maintain level to within ½ inch of fill plug hole
CAPACITY 5 pints
DRAIN and REFILL Not recommended
CONTROLLED DIFFERENTIAL IDENTIFICATION: Code letter "G" preceding axle ratio identification on differential carrier

GAS TANK .... Gallons

Commercial and 1963 Model 6389	21
All other models	26

TIRES

..........Pressure	Front	Rear
8.00-15	26*	26*
8.20-15	24*	24*
8.20-15, 6 ply	28*	28*
8.90-15, 6 ply	24*◆	32*◆

* Sustained speeds above 75 mph, add 4 pounds, except 8.00-15; 2 pounds
◆ With heavy-duty suspension components, 40 rear, 26 front

6 Rotate tires, Method A, then balance wheels; on mileage basis only

■ Position for lift adapter
Do not use frame contact hoist or bumper jack on 75 series and Commercial vehicles
▲ Prepacked bearing
● Cooling system drain

KEY TO INTERVALS
★ Every 60 days or 6,000 miles
6 Every 6 months or 6,000 miles
24 Every 24,000 miles
30 Every 30,000 miles
TY Twice yearly

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant, Cadillac Part No. 1474829
CC Carburetor Cleaner
HB Hydraulic Brake Fluid, Heavy-Duty
MO Motor Oil
MP* Multi-Purpose Gear Lubricant, Meeting Specification MIL-L-2105B
PS Power Steering Fluid, Cadillac Part No. 1099021
WB Wheel Bearing Grease

* Controlled differential, use Cadillac Part No. 1098970; may also be used in standard differential

CHEVROLET CORVETTE

1953-62 All Models

HOOD RELEASE: Inside

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
6-cyl.	1 (6-volt)	100
V-8	24	53, 60, 61

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi

	psi
6-cyl.	130
265 V-8	160
283 V-8	150
283 V-8 with special camshaft	140
327 V-8	160
327 V-8 with special camshaft	150

Maximum variation between cylinders, less than 20 psi

SPARK PLUGS

AC: 6-cyl. C43; V-8, 44 for moderate service
Gap: .035" Torque: 20-25 ft. lb.

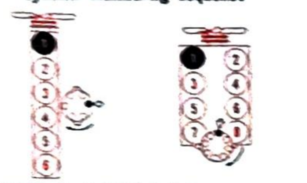
IGNITION POINTS

Delco
Gap: .016" used; .019" new. Dual points, .015" used; .018" new
Dwell angle: 6-cyl. 41°-47°; V-8 26°-32°; dual points, each set, 29°, total dwell 32°-34°

CONDENSER

Delco Capacity: .18-.25 mfd

Cylinder Numbering Sequence

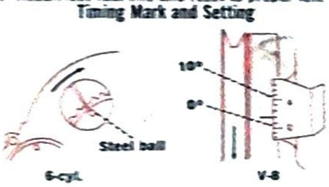


Firing Order: 6-cyl. 1, 5, 3, 6, 2, 4
V-8 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. 6-cyl.: Set octane selector to 0° on scale
   V-8: Disconnect distributor vacuum line and tape manifold opening (1958 late -61, only)
5. Set engine speed at idle or as specified with transmission in NEUTRAL
6. Observe timing and turn distributor to obtain recommended setting
7. Reconnect vac. line and reset to proper idle

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
6-cyl.: 1953 early, 1/32" after steel ball; 1953 late, 5°; 1954, 2°; 1955, 0°
V-8: 1955-62, 4°; 1962 with AFB carb. 8°, with special cam 10°. With 2 carbs.: 1956, 4°; 1957, 12°; 1958-59, 4°, and with special cam, 7°; 1960-61, 12°
Fuel injection: 1957, 12°-14°, with special cam, 4°-8°; 1958-59, 4°, with special cam, 14°; 1960-61, 8°, with special cam, 18°; 1962 with special cam, 10°

FUEL PUMP

AC mechanical, various models
Pressure: 6-cyl., 3½-4½ lb. at idle speed
V-8: 1955-56, 4-5¼ lb.; 1957-62 with spec. cam, 6-8 lb., others, 5¼-6½ lb.; at idle to 1000 rpm
Volume: 1 pt. in 45 sec. at 100 rpm; 6-cyl. at idle

CARBURETOR ADJUSTMENT

CARTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
Triple 1-bbl. YH	½-1½	manual	manual
4-bbl. WCFB	¾-1¾	index	index
4-bbl. AFB	1½	index	index
Twin 4-bbl. WCFB	¾-1¾	index*	index*

* Choke on rear carburetor only

ENGINE IDLE SPEED

(2) 4-bbl. carb.: Manual and Auto. Trans. 600 rpm; with special cam, 800-850 rpm
Fuel injection: 500 rpm; with special cam, 650 rpm
4-bbl. AFB with special cam, 650 rpm
Others: Man. Trans. 475 rpm; Auto. Trans. 450 rpm
Note: All Auto. Trans. in DRIVE

VALVE CLEARANCES

(engine hot)
6-cyl.: Intake .010"; exhaust .020"
V-8: 1955-56, (2) 4-bbl. carb., intake .008"; exhaust .018"; others, intake .008"; exhaust .016"; 1957-59 with spec. cam, intake .012"; exhaust .018"; 1960, with alum. head, intake .006"; exhaust .014"; 1960-62 with iron head, intake .008"; exhaust .018"; others, hydraulic lifters

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
6-cyl.	18¼	
V-8	17	16

Cooling system pressure: 6-cyl., 4 pounds; 8-cyl., 7 pounds; with fuel injection, 13 pounds; except all 1961-62, 13 pounds

[4] **Oil Fill Cap** .... Wash and oil MO
8-cyl. only. 6-cyl., located in top of valve cover, no service required

Air Cleaner Element .... Service
[2] Wire gauze .... Wash and oil MO
[4] Polyurethane type ... Wash and oil 10W MO
[15] Fuel injection, dry type .... Replace
[C] Air inlet extensions ..... Clean if necessary

[★] **Steering Gear** (plug) .... SG
Fill to ¾ inch below top of fill hole

Crankcase Dipstick .... Check level
1956 8-cyl.; all 6-cyl., right side

[★] **Clutch Compensating Shaft** (2 felts) .... MO

[★] **Brake Master Cylinder** (plug) .... HB
Fill to ½-1 inch below top of fill hole

[4] **Oil Filter 8-cyl. only** (under car) .... Replace
Add extra quart oil

[★] **Distributor Shaft** 1956-62 (oil cup) .... MO
1953-55 (grease cup) CL
[5] Wick under rotor .... Sparingly 10W MO
1955-57, some 1958 8-cyl.
[5] Felt under plate (oil hole in plate) .. 10W MO
1955 8-cyl. Sparingly
[25] Cam lubricator wick .... Replace
With 4-barrel carburetor models

[10] **PCV System Valve** CC
Remove and clean valve and hose

[★] **Front Suspension and Steering Linkage** .... (22 fittings) CL

TRANSMISSION, Manual .. 90 MP

[★] Maintain level to fill plug hole: 1957-60 4-speed, ½ inch below
CAPACITY 3-speed, 2 pints; 4-speed, 1½ pints, except 1961-62, 3 pints
DRAIN and REFILL Not recommended

[★] **Transmission Shift Lever Shaft**
Powerglide 1953-55 CL
All others 1956-62 .... MO

[★] **Universal Joints** CL

DIFFERENTIAL .... 90 MP*

Multi-viscosity 80-90 may be used
[★] Maintain level to fill plug hole
CAPACITY 1953-55, 3½ pints; 1956-62, 4 pints
DRAIN and REFILL
1953-56, 1962 Not recommended
[Y] 1957-61
POSITRACTION IDENTIFICATION:
1959-62, late 1958, circular metal tag under fill plug. 1958 and earlier without metal tag, prefix letters AN, AP, AQ, AS, AT, AU to serial number on front right side of carrier housing

GAS TANK .... Gallons

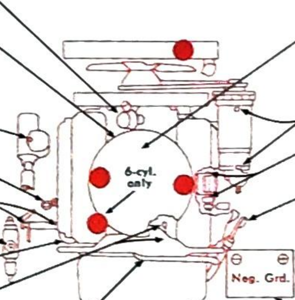
1953-55	17¼
1956-62	16½

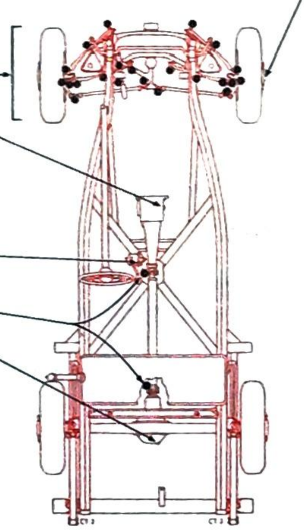
TIRES .... Pressure

	Front	Rear
6.70-15	24*	24*

*For sustained high-speed driving, 36

[5] Rotate tires, Method B, then balance wheels





● Lubrication fitting
● Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	20,20W*	10W-30
Above 0°	10W	10W-30
Below 0°	5W	5W-20

* 30 or 10W-30 may be used for sustained high speed above +90°
CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Fuel Filter Element
Single carburetor, in fuel inlet .... Wash [5]
1962 AFB carburetor, bowl-type .... Replace [5]
Fuel injection .... Replace [15]

Generator (2 oil cups) .... MO [★]
1953-57, left side. Do not overfill front cup

Manifold Heat Control Valve .... MH [C]
Lubricate if valve shaft is not free
6-cyl., left side

TRANSMISSION, Automatic .. AF

Check level, engine running, NEUTRAL position [★]

CAPACITY, quarts	Initial Refill	Total Refill
Powerglide ex. aluminum housing	4½	4½
With aluminum housing	2	2

DRAIN and REFILL Not recommended
1962 with aluminum housing, remove oil pan
All others, remove drain plug

Battery .... Test and fill [★]

Front Wheel Bearings .... Repack WB [10]
Initial torque, 33 ft. lb.; final adjustment, 12 ft. lb. If necessary, loosen to insert pin

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:
1. Loosen parking brake cable adjustment nuts
2. Using suitable tool, turn star wheel adjuster to expand shoes until a light, uniform drag is felt when turning drum
3. Back off adjuster 7 notches (12 notches on all 1958-62 models and when metallic linings are used)
4. Repeat operation at each wheel
5. Readjust parking brake cable

Bleeding sequence: LR, RR, RF, LF
Power brake (engine stopped), power brake slave cylinder, power brake valve LR, RR, RF, LF

KEY TO INTERVALS

[★] Every 1,000 miles
[2] Every 2,000 miles
[4] Every 4,000 miles
Oil Filter: Every 4,000 miles or 6 months
[5] Every 5,000 miles
[10] Every 10,000 miles
[15] Every 15,000 miles
[25] Every 25,000 miles
[Y] Yearly or every 10,000 miles
[C] Conditional service
Clean carburetor air inlet extensions if necessary
Lubricate manifold heat control valve if shaft is not free

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CC Carburetor Cleaner
CL Chassis Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
MH Graphite mixed with alcohol
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
SG Steering Gear Lubricant
WB Wheel Bearing Grease

* For Positraction differential, use Special Positraction Lubricant

CHEVROLET 6

1958-62 All Models
Except Corvair, Chevy II

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24 24T	53, 61 70

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
All 130
Maximum variation between cylinders, less than 20 psi

SPARK PLUGS

AC: 1958-60, 44; 1961, 45; 1962, 46
Gap: .035"
Torque: 20-25 ft. lb.

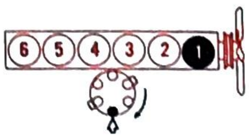
IGNITION POINTS

Delco
Gap: .016" used; .019" new
Dwell angle: 28°-35°

CONDENSER

Delco
Capacity: .18-.25 mfd

Cylinder Numbering Sequence



Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Set octane selector to 0° on the scale
5. Set idle speed with transmission in NEUTRAL
6. Observe timing mark through opening in flywheel housing and turn distributor to obtain alignment of specified mark with pointer
7. Reset to proper idle speed

Timing Mark and Setting

Timing Setting (Before Top Dead Center):
1958, 0° (Steel ball aligned with pointer)
1959-62, 5° (First short radial mark clockwise from steel ball or stamped O aligned with pointer)

FUEL PUMP

AC model: 1958, 4433, 4666, 4434*; 1959-62, 4434
Pressure: 3½-4½ lb. at idle to 1000 rpm
Volume: 1 pint in 45 seconds at 1000 rpm
* Optional for electric wipers

CARBURETOR ADJUSTMENT

ROCHESTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
1-bbl. BC	2½	1 lean	index*

* 1962, 2 rich

ENGINE IDLE SPEED

Manual Trans.: 1958-61, 475 rpm; 1962, 500 rpm
Auto. Trans. 475 rpm in DRIVE

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
1958	17½	16½
1959-62	18	17

Cooling system pressure, 13 pounds

★ Steering Gear (plug) .... SG
Maintain level to ¾ inch below top of fill hole

★ Power Steering Reservoir .... AF
At rear of generator on 1958-59
Fill to FULL mark on gage

★ Generator (2 oil cups) .... MO
Do not overfill front cup

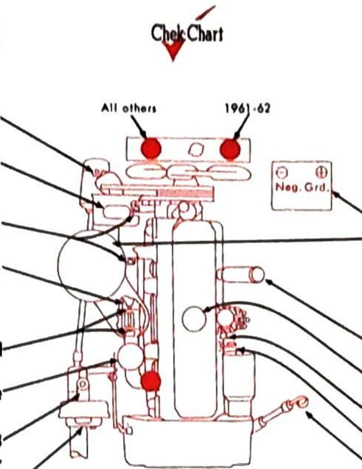
Fuel Filter Element .... Replace
Located in carburetor fuel inlet
15 1960-61 models
C 1962 models

C Manifold Heat Control Valve .... MH
Lubricate if shaft is not free

4 Oil Filter .... Replace
Add extra quart oil

★ Brake Master Cylinder (plug) .... HB
Fill to: 1958-59, ½-1 inch; 1960-61, ½ inch; 1962, ¼ inch below top of fill hole

TY Power Brake Air Cleaner Element .... Wash
1958-61 only



CRANKCASE .... "MS" MO

Above +32°	20,20W*	10W-30
Above 0°	10W	10W-30
Below 0°	5W	5W-20

* 30 or 10W-30 may be used for sustained high speed above +90°
CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill ★
Air Cleaner Element .... Service
Oil bath .... Wash and fill MO 5
Summer, 50; winter, 20
Wire gauze .... Wash and oil MO 2
Polyurethane type ... Wash and oil 10W MO 4
PCV System Valve .... CC 10
Remove and clean valve and hose
Oil Fill Cap .... Wash and oil MO 4
1958, located forward
Distributor Shaft (grease cup) .... CL ★
Crankcase Dipstick .... Check level

TRANSMISSION, Automatic ... AF

Check level, engine idling, NEUTRAL position ★

CAPACITY, quarts	Initial Refill	Total Refill
Powerglide	4½	4½

DRAIN and REFILL Not recommended
Remove transmission drain plug

★ Front Suspension and Steering Linkage ...... (9 or 10 fittings) CL

★ Clutch Cross Shaft 1959-62 CL

★ Parking Brake Cables and Pulleys .... Coat WG

TRANSMISSION, Manual .. 90 MP

★ Maintain level to fill plug hole
CAPACITY 2 pints; with overdrive, 3 pints
DRAIN and REFILL Not recommended
Overdrive drain and fill thru transmission

25 Universal Joints .... Repack WB
More often under adverse conditions

★ Parking Brake Cable Guides .... Coat WG

DIFFERENTIAL .... 90 MP*

Multi-viscosity 80-90 may be used
★ Maintain level to fill plug hole
CAPACITY 4 pints
DRAIN and REFILL
Y 1958-61
1962 Not recommended
POSITRACTION IDENTIFICATION:
1959-62, late 1958, circular metal tag under fill plug, 1958 without metal tag, prefix letters AK, AL, AM, to serial number on front right side of carrier housing

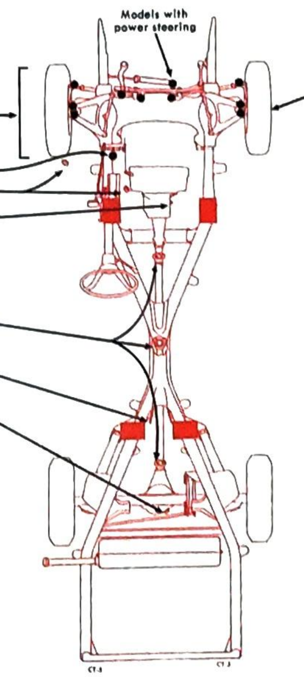
GAS TANK .... Gallons

Sedan delivery, sedan pick-up	17
1958-60 station wagon	17
1959-60 9-passenger station wagon	18
1961-62 station wagon	19
All other models	20

TIRES

Pressure	Front	Rear
7.50-14, 8.00-14	24	24
Station wagons	24	28

5 Rotate tires, Method B, then balance wheels



Position for lift adapter
Lubrication fitting
Cooling system drain

Front Wheel Bearings .... Repack WB 10
1958-60, initial torque, 28 ft. lb.; final adjustment, 12 ft. lb.
1961-62, initial torque, 15 ft. lb.; final adjustment, back off 1 full flat, ⅙ turn

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:

1. Loosen parking brake cable adjustment nuts
2. Using suitable tool, turn star wheel adjuster to expand shoes until a light, uniform drag is felt when turning drum
3. Back off adjuster 12 notches (1958, 7 notches)
4. Repeat operation at each wheel
5. Readjust parking brake cable

Bleeding sequence: LR, RR, RF, LF
Power brake (engine stopped), power brake slave cylinder, power brake valve LR, RR, RF, LF

KEY TO INTERVALS

★ Every 1,000 miles
2 Every 2,000 miles
4 Every 4,000 miles
Oil Filter: Every 4,000 miles or 6 months
5 Every 5,000 miles
10 Every 10,000 miles
15 Every 15,000 miles
25 Every 25,000 miles
TY Twice yearly
Y Yearly or every 10,000 miles
C Conditional service
1962, replace fuel filter element only if carburetor flooding occurs
Lubricate manifold heat control valve if shaft is not free

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF	Automatic Transmission Fluid, Type A, Suffix A	HB	Hydraulic Brake Fluid, Heavy-Duty	SG	Steering Gear Lubricant
CC	Carburetor Cleaner	MH	Graphite mixed with alcohol	WB	Wheel Bearing Grease
CL	Chassis Lubricant	MO	Motor Oil	WG	White Waterproof Grease
		MP*	Multi-Purpose Gear Lubricant		

* For Positraction differential, use Special Positraction Lubricant

CHEVROLET V-8

1958-62 All Models Except Corvette

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	53, 61
	24T	70

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi

283, 348, 409 engines 130
283 engine with 2-bbl. carb. 140
327 engine 160
Maximum variation between cylinders, less than 20 psi

SPARK PLUGS

AC, All 1958 engs. and 1959-60 283 eng., 44; 1959-61 348 eng., 44N except 1960-61 348 eng. with spec. cam, 43N; 1961 283 eng., 45; 1962 283 eng., 46; 1962 327 eng., 44; 1962 409 eng., 43N
Gap: .035"
Torque: 20-25 ft. lb.

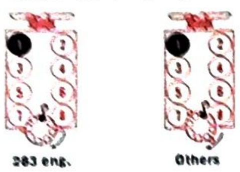
IGNITION POINTS

Delco
Gap: .016", used, .019", new; dual points, .014", used, .018", new
Dwell angle: Single points, 28°-32°; dual points each set, 29°, total dwell, 33°-34°

CONDENSER

Delco Capacity: .18-.25 mfd

Cylinder Numbering Sequence

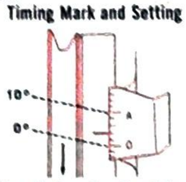


Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
1958-59 348 eng., 4°; 1958-62 283 eng., 4°*; 1960-61 348 eng., 8°; 1962 327 eng., 4°**; 1962 409 eng., 12°
(Each line equals 2°)
* With special cam, 12° ** Hi-perform. eng. 8°

FUEL PUMP

AC mechanical
Pressure: 5¼-6½* lb. at idle to 1000 rpm
Volume: 1 pint in 45 seconds at idle rpm
* 1960-61, 348 eng. with spec. cam, 409 eng. 9¼-10¾ lb.

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER			
4-bbl. WCFB	1	index	index
4-bbl. AFB	1	index	—
ROCHESTER			
2-bbl. 2GC	1½	index*	index
4-bbl. 4GC	1-1½	—**	1 lean ▲

* 1962, 1 lean ** 1962, index ▲327, 348 engs. index

ENGINE IDLE SPEED

Manual Trans. 500 rpm; 283 eng. with fuel injection, 500 rpm; except 409 eng. and others with special cam or fuel injection, 650 rpm
Auto. Trans. 475 rpm in DRIVE; except 283 eng. with fuel injection or special cam, 600 rpm

VALVE CLEARANCES

(engine hot and running)
With special cam and 409 eng.: Intake .008"; exhaust .018"
Others: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
348-cu. in. engine		
1958	23	22
1959-61	22	21
1962, 409-cu. in. eng.	22	21
All other models		
1958	17	16
1959-62	18	17

Cooling system pressure, 13 pounds

- [1,000] Air Suspension Accumulator Tank .... Drain
  Open petcock to drain accumulated water and oil
- [1,000] Air Suspension Vaporizer Jar .... DA
  Keep jar ½ full in freezing weather
- [1,000] Air Suspension System Air Cleaner .... Wash
- [1,000] Steering Gear (plug) .... SG
  Maintain level to ¼ inch below top of fill hole
- [1,000] Power Steering Reservoir .... AF
  1958-59, at rear of generator
  Fill to FULL mark on gage
- [1,000] Generator (2 oil cups) .... MO
  Do not overfill front reservoir
- Crankcase Dipstick .... Check level
- [1,000] Brake Master Cylinder (plug) .... HB
  Fill to: 1958-59, ½-1 inch; 1960-61, ½ inch; 1962, ¼ inch below top of fill hole
- [TY] Power Brake Air Cleaner Element .... Wash
  1958-61 only
- [4] Oil Filter (under car) .... Replace
  Add extra quart oil
- [1,000] Distributor Shaft (oil cup) .... 10W MO
- [25] Cam lubricator wick .... Replace
- [10] PCV System Valve CC
  Remove and clean valve and hose
- [1,000] Front Suspension and Steering Linkage ...... (9 or 10 fittings) CL
- [1,000] Clutch Cross Shaft CL
- [1,000] Parking Brake Cables and Pulleys .... Coat WG
- [1,000] Turboglide Control Shaft Linkage ..... Coat WG

TRANSMISSION, Manual .. 90 MP

[1,000] Maintain level to fill plug hole. 1958-60 4-speed, ½ inch below
CAPACITY 3-speed, 2 pints; with overdrive, 3 pints; 4-speed, 1½ pints, except 1961-62, 3 pints
DRAIN and REFILL Not recommended
Overdrive drain and fill thru transmission

- [25] Universal Joints .... Repack WB
  More often under adverse conditions
- [1,000] Parking Brake Cable Guides .... Coat WG

DIFFERENTIAL .... 90 MP*

Multi-viscosity 80-90 may be used
[1,000] Maintain level to fill plug hole
CAPACITY 4 pints
DRAIN and REFILL
[Y] 1958-61
1962 Not recommended
POSITRACTION IDENTIFICATION:
1959-62, late 1958, circular metal tag under fill plug. 1958 without metal tag, prefix letters AK, AL, AM to serial number on front side of carrier housing

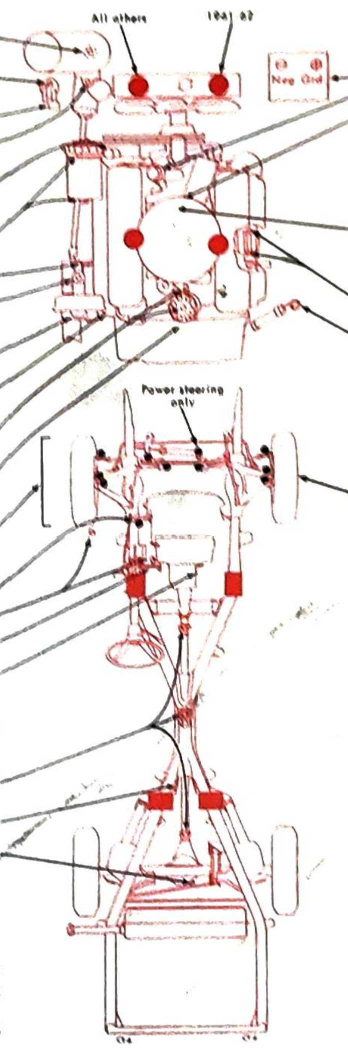
GAS TANK .... Gallons

Sedan delivery, sedan pick-up	17
1958-60 station wagon	17
1959-60 9-passenger station wagon	18
1961-62 station wagon	19
All other models	20

TIRES .... Pressure

	Front	Rear
7.50-14, 8.00-14	24	24
Station wagons	24	28

[5] Rotate tires, Method B, then balance wheels



LIFTING CAUTION—AIR SUSPENSION
Close shut-off valve located on frame to left of steering gear, before jacking or raising car with any free wheel type lift

- ■ Position for lift adapter
- • Lubrication fitting
- ● Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	20, 20W*	10W-30
Above 0°	10W	10W-30
Below 0°	5W	5W-20

* 30 or 10W-30 may be used for sustained high speed above +90°
CAPACITY 4 quarts, except 409-cu. in. engine, 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

- Battery .... Test and fill [1,000]
- Oil Fill Cap .... Wash and oil MO [4]
- Air Cleaner Element .... Service
  - Dry type .... Replace if necessary [15]
    If not replaced, test every 5,000 miles thereafter
  - Polyurethane type ... Wash and oil 10W MO [4]
  - Oil bath .... Wash and fill MO [5]
    Summer, 50; winter, 20
- Fuel Filter Element .... Replace
  - In bowl-type fuel filter .... [5]
  - In carburetor fuel inlet, 1960-61 .... [15]
  - 1962, only if flooding occurs .... [C]
- Manifold Heat Control Valve .... MH [C]
  Lubricate if shaft is not free

TRANSMISSION, Automatic .. AF

Check level, engine idling, NEUTRAL position [1,000]

CAPACITY, quarts	Initial Refill	Total Refill
Powerglide ex. aluminum housing	4½	4½
With aluminum housing	2	2
Turboglide	2	9

DRAIN and REFILL Not recommended
1961 Turboglide, disconnect fill tube
1962 with aluminum housing, remove oil pan
All others, remove drain plug

- Front Wheel Bearings .... Repack WB [10]
  1958-60, initial torque, 28 ft. lb.; final adjustment, 12 ft. lb.
  1961-62, initial torque, 15 ft. lb.; final adjustment, back off 1 full flat, ¼ turn

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:

1. Loosen parking brake cable adjustment nuts
2. Using suitable tool, turn star wheel adjuster to expand shoes until a light, uniform drag is felt when turning drum
3. Back off adjuster 12 notches (1958, 7 notches)
4. Repeat operation at each wheel
5. Readjust parking brake cable

Bleeding sequence: LR, RR, RF, LF
Power brake (engine stopped), power brake slave cylinder, power brake valve LR, RR, RF, LF

KEY TO INTERVALS

- [1,000] Every 1,000 miles
- [4] Every 4,000 miles
  Oil Filter: Every 4,000 miles or 6 months
- [5] Every 5,000 miles
- [10] Every 10,000 miles
- [15] Every 15,000 miles
- [25] Every 25,000 miles
- [TY] Twice yearly
- [Y] Yearly or every 10,000 miles
- [C] Conditional service
  1962, ex. AFB carburetor, replace fuel filter element only if flooding occurs
  Lubricate manifold heat control valve if shaft is not free

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF	Automatic Transmission Fluid, Type A, Suffix A	DA	Denatured or Wood Alcohol
CC	Carburetor Cleaner	HB	Hydraulic Brake Fluid, Heavy-Duty
CL	Chassis Lubricant	MH	Graphite mixed with alcohol
		MO	Motor Oil
MP*	Multi-Purpose Gear Lubricant	SG	Steering Gear Lubricant
WB	Wheel Bearing Grease	WG	White Waterproof Grease

* For Positraction differential, use Special Positraction Lubricant

CHEVROLET CORVAIR

1960-62 All Models Except 95

1960 1961 1962

ENGINE LID RELEASE: Sedan, top, right of rear license plate
Station wagon, top, center of rear access panel

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	53	35, 42

COMPRESSION PRESSURE

(at cranking speed with throttle open)

	psi
All ....minimum	130

Maximum variation between cylinders, less than 20 psi

SPARK PLUGS

AC: Turbo-Air, 46FF; Super Turbo-Air, Monza with Powerglide and Turbocharged engines, 44FF
Gap: .035"
Torque: 20-25 ft. lb.

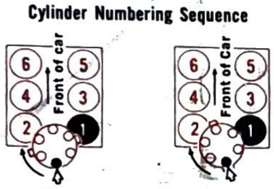
IGNITION POINTS

Delco
Gap: .016" used; .019" new
Dwell angle: 31°-34°

CONDENSER

Delco Capacity: .18-.25 mfd

Cylinder Numbering Sequence



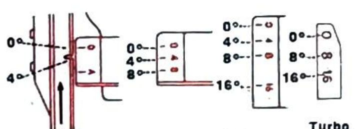
1960 1961-62

Firing Order: 1, 4, 5, 2, 3, 6

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening; except Turbocharged engines
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft pulley and turn distributor to obtain recommended setting
   Note color of distributor oiler. Following colors are used: Bright (Cadmium-Zinc), copper, and black. See Timing Setting for recommendations
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



1960 1st type — 1960 2nd type — 1960 late, 1961-62 — Turbo charged engines

Timing Setting (Before Top Dead Center):
1960: 1st and 2nd type tab, Dist. No. 1110252 and 1110258, (Bright oiler) 4°*; 3rd type tab, Dist. No. 1110259 (Black oiler) and 1110260 (Copper oiler) 13°; 3rd type tab, Dist. No. 1110256 (Black oiler) and 1110257 (Copper oiler) 16°
1961-62: Turbo-Air, Manual Trans. 4°; Auto. Trans. 13°
Super Turbo-Air Manual Trans., 13°
Turbocharged engines, Manual Trans. 24°
* 1st type tab, 4° is ⅓ distance from "0" mark

FUEL PUMP

AC model 4704
Pressure: 4-5 lb. at idle to 1000 rpm
Volume: 1 pint in 45 seconds at idle speed

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER			
1962 (1) 1-bbl. YH	¾	1 rich	—
ROCHESTER			
1960 (2) 1-bbl. H	1½	index	index
1961 (2) 1-bbl. H	1½	manual	manual
1962 (2) 1-bbl. H	1½	index	index

ENGINE IDLE SPEED

Manual Trans. Turbo-Air, 500 rpm; Super Turbo-Air, 600 rpm; Turbocharged engines, 850 rpm
Auto. Trans. 500 rpm in DRIVE

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

★ **Steering Gear** (plug)........................SG
Maintain level to fill plug hole

★ **Front Suspension and Steering Linkage**..........(8 fittings) CL

★ **Brake Master Cylinder** (plug)..............HB
Service thru luggage compartment
Fill to level mark

10 **Parking Brake and Clutch Cable and Pulleys**........Coat WG
Service under dash and by removing front portion of tunnel plate under car

10 **Gearshift Lever Ball & Socket Pivot**...Coat WG
Service thru floor and by removing front portion of tunnel plate under car

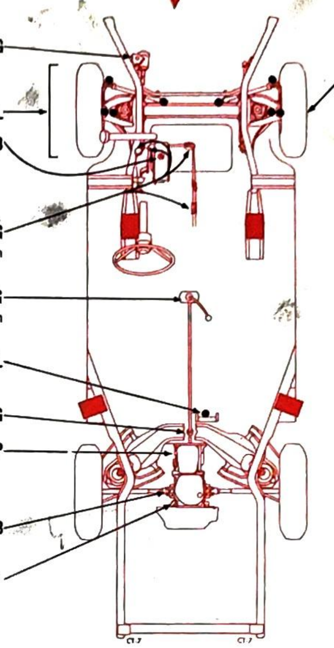
★ **Clutch Cross Shaft**......................CL

5 **Gearshift Control Shaft Universal Joint**................Coat WG

TRANSMISSION, Manual..80 MP
★ Maintain level to fill plug hole
CAPACITY 3-speed, 2 pints; 4-speed, 3 pints
10 **DRAIN and REFILL**

25 **Universal Joints** Both sides.......Repack WB
More often under adverse conditions

DIFFERENTIAL ....80 MP*
Multi-viscosity 80-90 may be used
★ Maintain level to fill plug hole
CAPACITY 3 pints
10 **DRAIN and REFILL**
POSITRACTION IDENTIFICATION:
Circular metal tag under fill plug



LIFTING CAUTION
Never lift car by front or rear bumpers

Front Wheel Bearings............Repack WB 10
Initial torque, 7 ft. lb.; final adjustment, back off 1 full flat ⅙ turn

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:
1. Loosen parking brake cable adjustment nut
2. Using a suitable tool inserted into adjustment slot in backing plate, expand shoes until a light uniform drag is felt when revolving drum
3. Back off adjustment 12 notches
4. Repeat operation at each wheel
5. Readjust parking brake cable

Bleeding sequence: LR, RR, RF, LF

KEY TO INTERVALS

★ Every 1,000 miles
2 Every 2,000 miles
4 Every 4,000 miles or 6 months
5 Every 5,000 miles
10 Every 10,000 miles
15 Every 15,000 miles
25 Every 25,000 miles
C Conditional service
1962, except Monza Spyder, replace fuel filter elements only if carburetor flooding occurs

GAS TANK..................Gallons

1960	11
1961-62	14

TIRES...........Pressure Front Rear

	Front	Rear
6.50-13, 6.70-13	15	26
7.00-13 station wagon...........	15	26

5 Rotate tires, Method D, then balance wheels

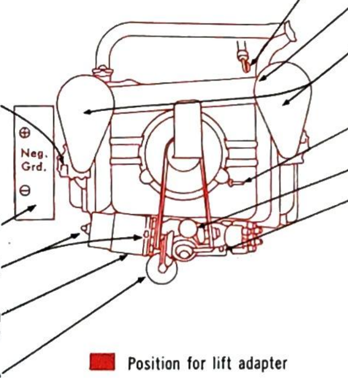
Fuel Filter Element..................Replace
In carburetor fuel inlet, both sides
15 1960-61, more often if flooding occurs
C 1962, only if flooding occurs
10 Monza Spyder Turbocharged
One filter in fuel line at left of air cleaner

★ **Battery**........................Test and fill
1960 models, right side

★ **Generator** (2 oil cups)...................MO
Do not overfill cup near pulley

5 **Engine Oil Cooler**......................Clean
Remove cover, clean with brush or compressed air

4 **Oil Filter** ....Replace
Add extra pint oil



Position for lift adapter
• Lubrication fitting

TRANSMISSION, Automatic..AF
Check level, engine idling, NEUTRAL position... ★
CAPACITY, refill approx. 3 quarts
Do not overfill
DRAIN and REFILL Not recommended
Disconnect fill tube

PCV System Valve.....................CC 5
Remove and clean valve; also clean hose if clogged

Air Cleaner Elements..................Service
1960 and Monza Spyder, have one air cleaner
Polyurethane........Wash and oil 10W MO 2
Monza Spyder Turbocharged...........4

Crankcase Dipstick..............Check level
Station wagon, dipstick attached to oil fill cap

Oil Fill Cap

Distributor Shaft (oil cup) 1960-61...10W MO ★

CRANKCASE..............."MS" MO

Above +32°................	30	10W-30
Above −10°................	10W	10W-30
Below −10°................	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF	Automatic Transmission Fluid, Type A, Suffix A	HB	Hydraulic Brake Fluid, Heavy-Duty	SG	Steering Gear Lubricant
CC	Carburetor Cleaner	MO	Motor Oil	WB	Wheel Bearing Grease
CL	Chassis Lubricant	MP*	Multi-Purpose Gear Lubricant	WG	White Waterproof Grease

* Positraction, use same lubricant recommended for standard differential

CHEVROLET CHEVY II 4, 6

1962 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22F	42
	24T	70

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi

All 130

Maximum variation between cylinders, less than 20 psi

SPARK PLUGS

AC 46N
Gap: .035"
Torque: 20-25 ft. lb.

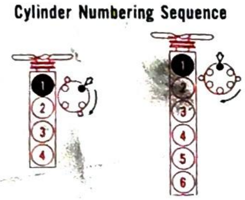
IGNITION POINTS

Delco
Gap: .016", used; .019", new
Dwell angle: 31°-34°

CONDENSER

Delco
Capacity: .18-.25 mfd

Cylinder Numbering Sequence

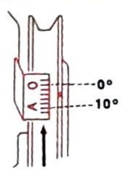


Firing Order:
4-cyl. 1, 3, 4, 2
6-cyl. 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed to 500 rpm
6. Observe timing at crankshaft pulley and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
4-cyl., 4°; 6-cyl., 8°
(Each line equals 2°)

FUEL PUMP

AC
Pressure: 3½-4½ lb. at idle to 1000 rpm
Volume: 1 pint in 30-45 seconds at idle rpm

CARBURETOR ADJUSTMENT

ROCHESTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
4-cyl. 1-bbl. B	2	manual index	manual index
6-cyl. 1-bbl. BC	2		

ENGINE IDLE SPEED

Manual Trans. 500 rpm
Auto. Trans. 500 rpm in DRIVE

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
4-cyl.	9	8½
6-cyl.	12	11½

Cooling system pressure, 13 pounds

★ **Power Steering Reservoir**..........AF
Fill to FULL mark on gage

★ **Generator** (2 oil cups)..........MO
Do not overfill front cup

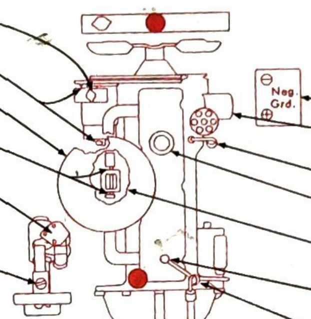
Air Cleaner Element..........Service
4 Polyurethane....Wash and oil 10W-30 MO

C **Manifold Heat Control Valve**..........MH
Lubricate if shaft is not free

25 **Steering Gear**..........SG
Remove forward and outboard steering gear cover attaching screws. Inject lubricant into forward screw hole until lubricant comes out other hole. Replace screws

★ **Brake Master Cylinder** (cover)..........HB
Fill to ¼ inch below top of reservoir

Chek-Chart



CRANKCASE.........."MS" MO

Above +32°	20,20W*	10W-30
Above 0°	10W	10W-30
Below 0°	5W	5W-20

* 30 or 10W-30 may be used for sustained high speed driving above +90°

CAPACITY 4-cyl., 3½ quarts; 6-cyl., 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery..........Test and fill ★

Oil Filter..........Replace 4
4-cyl., add extra pint oil; 6-cyl., extra quart

Crankcase Dipstick..........Check level

Oil Fill Cap..........Wash and oil MO 4
Check at engine tune-up

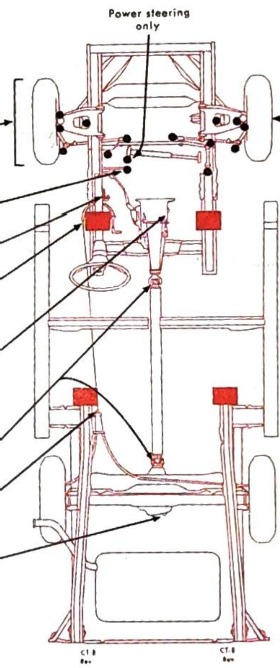
Fuel Filter Element..........Replace C
Located in carburetor fuel inlet

PCV System Valve..........CC 10
Remove and clean valve and hose

TRANSMISSION, Automatic..AF
Check level, engine idling, NEUTRAL position ★

CAPACITY, quarts	Initial Refill	Total Refill
All models	1½	1½

DRAIN and REFILL Not recommended
Remove oil pan



★ **Front Suspension and Steering Linkage**..........(13 or 14 fittings) CL

Front Wheel Bearings..........Repack WB 10
Initial torque, 8½ ft. lb.; final adjustment, back off 1 full flat, ⅙ turn

★ **Clutch Cross Shaft**..........CL

25 **Powerglide Control Shaft Linkage**..........WG

★ **Parking Brake Cable**..........Coat WG

TRANSMISSION, Manual..90 MP
★ Maintain level to fill plug hole
CAPACITY 2 pints
DRAIN and REFILL Not recommended

25 **Universal Joints**..........Repack WB

★ **Parking Brake Cable**..........Coat WG

DIFFERENTIAL..........90 MP*
Multi-Viscosity 80-90 may be used
★ Maintain level to fill plug hole
CAPACITY 4 pints
DRAIN and REFILL Not recommended
POSITRACTION IDENTIFICATION:
Circular metal tag under fill plug

GAS TANK..........Gallons
All models..........16

TIRES	Pressure Front	Rear
6.00-13	24	24
6.50-13, station wagon	24	28

5 Rotate tires, Method B, then balance wheels

■ Position for lift adapter
• Lubrication fitting
● Cooling system drain

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:

1. Loosen parking brake cable adjustment
2. Turn star wheel adjuster until light uniform drag is felt when turning drum
3. Back off adjuster 12 notches
4. Repeat procedure at each wheel
5. Readjust parking brake cable

Bleeding sequence: LR, RR, RF, LF

KEY TO INTERVALS

★ Every 1,000 miles
4 Every 4,000 miles
Oil Filter: Every 4,000 miles or 6 months
5 Every 5,000 miles
10 Every 10,000 miles
25 Every 25,000 miles
C Conditional service
Lubricate manifold heat control valve if shaft is not free
Replace fuel filter if carburetor flooding occurs

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CC Carburetor Cleaner
CL Chassis Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
MH Graphite mixed with alcohol
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
SG Steering Gear Lubricant
WB Wheel Bearing Grease
WG White Waterproof Grease

* For Positraction differential, use Special Positraction Lubricant

CHEVROLET 6

1963-64 Impala, Bel Air, Biscayne

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22F	44
	24T	70

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
All 130
Maximum variation between cylinders, 20 psi

SPARK PLUGS

AC 46N
Gap: .035"
Torque: 20-25 ft. lb.

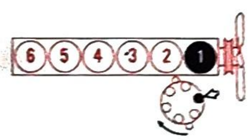
IGNITION POINTS

Delco
Gap: .016" used; .019" new
Dwell angle: 31°-34°

CONDENSER

Delco
Capacity: .18-.25 mfd

Cylinder Numbering Sequence

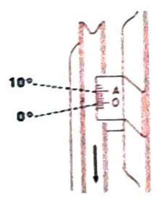


Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft pulley and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
4° (Range, 4°-8°)
(Each line equals 2°)

FUEL PUMP

AC mechanical
Pressure: 3½-4½ lb. at idle to 1000 rpm
Volume: 1 pint in 30-45 seconds at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
ROCHESTER			
1-bbl. BV	1½	*	*

* One rod diameter above top of hole in choke lever

ENGINE IDLE SPEED

Manual Trans. 475-525 rpm
Auto. Trans. 475-525 rpm in DRIVE

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	12	11½

Cooling system pressure, 13 pounds; with air conditioning, 15 pounds

Steering Gear (plug) .... SG
Maintain level to fill plug hole
★ 1963
36 1964

★ **Power Steering Reservoir** .... AF
With fluid at operating temperature and wheels in straight ahead position, fill to FULL mark on gage

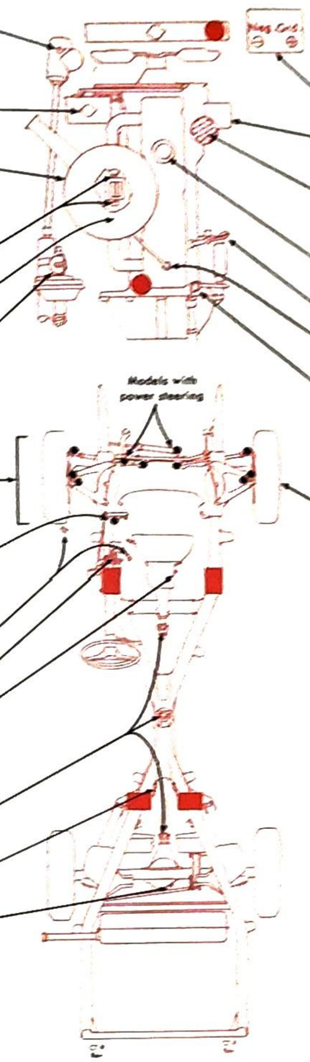
Air Cleaner Element .... Service
★ Oil bath .... Wash and fill MO
Summer, 50; winter, 20
12 Polyurethane .... Wash and oil MO
More often with prolonged dusty driving

C **Manifold Heat Control Valve** .... MH
Lubricate if shaft is not free

C **Fuel Filter Element** .... Replace
Located in carburetor fuel inlet

★ **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir

Chek-Chart



★ **Front Suspension and Steering Linkage** ..... (8 or 10 fittings) CL

Clutch Cross Shaft CL
★ 1963 (fitting)
36 1964 (plug)
Install fitting to lubricate

★ **Parking Brake Cables and Pulleys** .... Coat CL

★ **Powerglide Control Shaft Linkage** .... Coat CL

TRANSMISSION, Manual .. 80 MP
Multi-viscosity 80-90 may be used
★ Maintain level to fill plug hole
CAPACITY 2 pints; with overdrive, 3 pints
DRAIN and REFILL Not recommended
Overdrive drain and fill thru transmission

30 **Universal Joints** 1963 .... Repack WB
More often under adverse conditions
1964, no service required

★ **Parking Brake Cable Guides** .... Coat CL

DIFFERENTIAL .... 80 MP•
Multi-viscosity 80-90 may be used
★ Maintain level to fill plug hole
CAPACITY 4 pints
DRAIN and REFILL Not recommended
POSITRACTION IDENTIFICATION:
Circular metal tag under fill plug

GAS TANK .... Gallons

Station wagon	19
All other models	20

TIRES .... Pressure

	Front	Rear
7.00-14, 7.50-14, 8.00-14	24	24
Station wagons	24*	28*

* With heavy loads, front 22, rear 30

6 Rotate tires, Method B

CRANKCASE .... "MS" MO

Above +32°	20,20W*	10W-30
Above 0°	10W	10W-30
Below 0°	5W	5W-20

* Use 30 for sustained high speed or above +90°

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill ★

Oil Filter .... Replace ★
Add extra quart oil
More often with prolonged dusty driving

Distributor Cam Lubricator Wick
Rotate 180° 12
Replace 24

Oil Fill Cap .... Wash and oil MO (oil change)
With closed PCV system, sealed cap, no service

Crankcase Dipstick .... Check level

PCV System .... Test (oil change)
As required, replace valve and clean hose

TRANSMISSION, Automatic AF
Check level, engine idling, NEUTRAL position .... ★
DRAIN and REFILL Not recommended

Front Wheel Bearings .... Repack WB
1963 30
1964 36
Initial torque, 15 ft. lb.; final adjustment, back off 1 full flat, ⅙ turn

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required
Bleeding sequence: LR, RR, RF, LF
Power brake (engine stopped), power brake slave cylinder, power brake valve LR, RR, RF, LF

KEY TO INTERVALS

★ **Every 6,000 miles or 6 months**
6 **Every 6,000 miles**
12 **Every 12,000 miles**
24 **Every 24,000 miles**
30 **Every 30,000 miles**
36 **Every 36,000 miles**
Every crankcase oil change
C **Conditional service**
Lubricate manifold heat control valve if shaft is not free
Replace fuel filter element if carburetor flooding occurs

Position for lift adapter
• Lubrication fitting
Cooling system drain

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CL Chassis Lubricant, Water Resistant EP Type
HB Hydraulic Brake Fluid, Heavy-Duty, GM Brake Fluid Super No. 11
MH Graphite mixed with alcohol
MO Motor Oil
MP• Multi-Purpose Gear Lubricant Meeting Specification MIL-L-2105B
SG Steering Gear Lubricant
WB Wheel Bearing Grease

• For Positraction differential, use Special Positraction Lubricant

CHEVROLET V-8

1963-64 Impala, Bel Air, Biscayne

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
283 engine	22F	44
327, 409 engines	24	61
	24T	70

COMPRESSION PRESSURE

(at cranking speed with throttle open)

	psi
283 engine: 1963	140
1964	150
327 engine	160
409 engine	150

Maximum variation between cylinders, 20 psi

SPARK PLUGS

AC: 283 eng. 45; 327 eng. 44; 409 eng. 43N
Gap: .035"
Torque: 20-25 ft. lb.

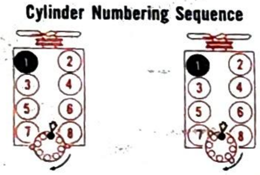
IGNITION POINTS

Delco
Gap: .016" used; .019" new
Dwell angle: 28°-32°

CONDENSER

Delco
Capacity: .18-.25 mfd

Cylinder Numbering Sequence



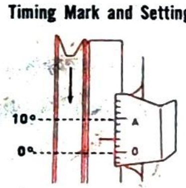
283 eng. 327, 409 engs.

Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
1963: 283 eng. 4°; 327 eng. 4°*; 409 eng. 8°**
1964: 283; 327 engs. with WCFB or 4GC carb. 4° (Range, 4°-8°); 327 eng. with AFB carb. 8° (Range, 6°-12°); 409 eng. with 4GC carb. 6°; with spec. cam, 12°
* Hi-performance engine, 8°
** With solid lifters, 12°
(Each line equals 2°)

FUEL PUMP

AC mechanical
Pressure: 283, 327 engs. 5¼-6½ lb.; 409 eng. 7¼-8½ lb.; at idle to 1000 rpm
Volume: 1 pint in 30-45 seconds at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER			
4-bbl. WCFB	1	index	index
4-bbl. AFB 327 eng.	1½	1 lean	index*
409 eng.	1½	2 lean	—
(2) 4-bbl. 409 eng.	1½-2	2 rich	—
ROCHESTER			
2-bbl. 2GC	1½	1 lean**	1 lean**
4-bbl. 4GC	1-1½	index	index

* 1964, 1 lean
** 1964, one-half rod diameter above top of hole in choke lever

ENGINE IDLE SPEED

Manual Trans.: 450-500 rpm; except 409 eng. 475-525 rpm, with special cam, 750 rpm
Auto. Trans.: 425-475 rpm in DRIVE; except 409 eng., 450-500 rpm in DRIVE

VALVE CLEARANCES

(engine hot and running)
409 eng. with special cam: Intake .012"; exhaust .020"
Others: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
409-cu. in. engine	22	21
1963 283-, 327-cu. in. eng.	18½	17½
1964 283-cu. in. engine	17	16
1964 327-cu. in. engine	16	15

Cooling system pressure, 13 pounds; with air conditioning, 15 pounds

Steering Gear (plug)..................SG
Maintain level to fill plug hole
[★] 1963
[36] 1964

[★] **Power Steering Reservoir**...............AF
With fluid at operating temperature and wheels in straight ahead position, fill to FULL mark on gage

Crankcase Dipstick............Check level
409-cu. in. engine, right side at front

[★] **Brake Master Cylinder** (cover or plug).....HB
Fill to ¼ inch below top of fill hole

[★] **Oil Filter** (under car)..............Replace
Add extra quart oil
More often with prolonged dusty driving

[OC] **PCV System** ....Test
As required, replace valve and clean hose and fittings

[★] **Front Suspension and Steering Linkage**......(8 or 10 fittings) CL

Clutch Cross Shaft..................CL
[★] 1963 (fitting)
[36] 1964 (plug)
Install fitting to lubricate

[★] **Parking Brake Cables and Pulleys**.....Coat CL

[★] **Powerglide Control Shaft Linkage**.....Coat CL

TRANSMISSION, Manual..80 MP

Multi-viscosity 80-90 may be used
[★] Maintain level to fill plug hole
CAPACITY 3-speed, 2 pints; with overdrive, 3 pints; 4-speed, 3 pints
DRAIN and REFILL Not recommended
Overdrive drain and fill thru transmission

[30] **Universal Joints** 1963...........Repack WB
More often under adverse conditions
1964, no service required

[★] **Parking Brake Cable Guides**.........Coat CL

DIFFERENTIAL...........80 MP*

Multi-viscosity 80-90 may be used
[★] Maintain level to fill plug hole
CAPACITY 4 pints
DRAIN and REFILL Not recommended
POSITRACTION IDENTIFICATION:
Circular metal tag under fill plug

GAS TANK................Gallons

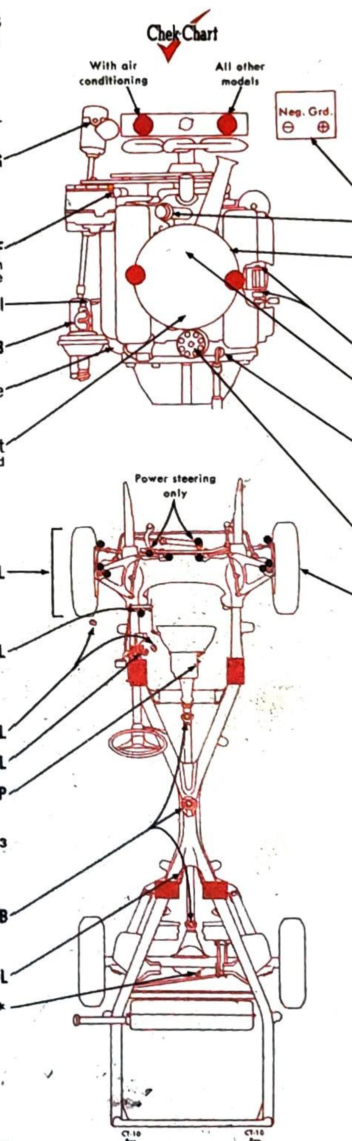
Station wagon	19
All other models	20

TIRES

	Pressure Front	Rear
7.00-14, 7.50-14, 8.00-14	24	24
Station wagons	24*	28*

* With heavy loads, front 22, rear 30

[6] Rotate tires, Method B



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE.............."MS" MO

Above +32°	20,20W*	10W-30
Above 0°	10W	10W-30
Below 0°	5W	5W-20

* Use 30 for sustained high speed or above +90°
CAPACITY 4 quarts, except 409-cu. in. engine, 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery....................Test and fill [★]

Oil Fill Cap...............Wash and oil MO [OC]
With closed PCV system, sealed cap, no service

Air Cleaner Element...............Service
Dry type ....Check [12]
Replace if necessary. If not replaced, recheck element every 6,000 miles until replaced
Polyurethane...........Wash and oil MO [12]
More often with prolonged dusty driving

Manifold Heat Control Valve............MH [C]
Lubricate if shaft is not free

Fuel Filter Element...............Replace
In carburetor fuel inlet.................. [C]
In bowl-type fuel filter.................. [12]

TRANSMISSION, Automatic..AF

Check level, engine idling, NEUTRAL position... [★]
DRAIN and REFILL Not recommended

Distributor Cam Lubricator Wick
Rotate end for end.................. [12]
Replace .... [24]

Front Wheel Bearings...........Repack WB
1963 .... [30]
1964 .... [36]
Initial torque, 15 ft. lb.; final adjustment, back off 1 full flat, ¼ turn

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required
Bleeding sequence: LR, RR, RF, LF
Power brake (engine stopped), power brake slave cylinder, power brake valve **LR, RR, RF, LF**

KEY TO INTERVALS

- [★] Every 6,000 miles or 6 months
- [6] Every 6,000 miles
- [12] Every 12,000 miles
- [24] Every 24,000 miles
- [30] Every 30,000 miles
- [36] Every 36,000 miles
- [OC] Every crankcase oil change
- [C] Conditional service
  - Replace fuel filter element in carburetor fuel inlet if flooding occurs
  - Lubricate manifold heat control valve if shaft is not free

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A, Suffix A
- **CL** Chassis Lubricant — Water Resistant EP Type
- **HB** Hydraulic Brake Fluid, Heavy-Duty — GM Brake Fluid Super No. 11
- **MH** Graphite mixed with alcohol
- **MO** Motor Oil
- **MP*** Multi-Purpose Gear Lubricant — Meeting Specification MIL-L-2105B
- **SG** Steering Gear Lubricant
- **WB** Wheel Bearing Grease

* For Positraction differential, use Special Positraction Lubricant

CHEVROLET CORVAIR

1963-64 Corvair, Corvair Spyder

ENGINE LID RELEASE: Top, right of rear license plate

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	53	42

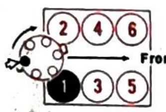
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All ....minimum 130
Maximum variation between cylinders, 20 psi

SPARK PLUGS
AC: Turbo-Air, 46FF; Super Turbo-Air, Monza with Powerglide and Turbo-Charged engines, 44FF
Gap: .035", except 1964 44FF, .030"
Torque: 15-20 ft. lb.

IGNITION POINTS
Delco
Gap: .016" used; .019" new
Dwell angle: 31°-34°

CONDENSER
Delco
Capacity: .18-.25 mfd

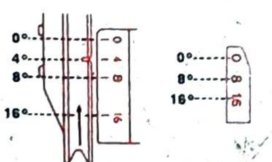
Cylinder Numbering Sequence



Firing Order: 1, 4, 5, 2, 3, 6

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening; except Turbo-Charged engines
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft pulley and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Turbo-Air eng. | Turbo-Charged eng.

Timing Setting (Before Top Dead Center):
1963: Turbo-Air: Man. Trans. 4°, Auto. Trans. 13°
Super Turbo-Air: Man. Trans. 13°
Turbo-Charged: Man. Trans. 24°
1964: Turbo-Air: Man. Trans. 6°, Auto. Trans. 14°
Super Turbo-Air: Man. Trans. 14°, Auto. Trans. 14°
Turbo-Charged: Man. Trans. 24°

FUEL PUMP
AC mechanical
Pressure: 4-5 lb. at idle to 1000 rpm
Volume: 1 pint in 30-45 seconds at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER			
1-bbl. YH	¾	1 lean	—
ROCHESTER			
(2) 1-bbl. H	1½	*	*

* 2 turns up from free entry in lever

ENGINE IDLE SPEED
Manual Trans.: Turbo-Air, 475-525 rpm
Super Turbo-Air, 575-625 rpm
Turbo-Charged, 825-875 rpm
Auto. Trans. 475-525 rpm in DRIVE

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Steering Gear (plug)...........................SG
Maintain level to fill plug hole
[★] 1963
[36] 1964

[★] **Front Suspension and Steering Linkage**..........(8 fittings) CL

[★] **Brake Master Cylinder** (cover or plug)..........HB
Service thru luggage compartment
Fill to ¼ inch below top of fill hole

[12] **Parking Brake and Clutch Cable and Pulleys**.........Coat CL
Service under dash and by removing front portion of tunnel plate under car

[12] **Gearshift Lever Ball & Socket Pivot**...Coat CL
Service thru floor and by removing front portion of tunnel plate under car

Clutch Cross Shaft.........................CL
[★] 1963 (fitting)
[36] 1964 (plug)
Install fitting to lubricate

[12] **Gearshift Control Shaft Connector**....Coat CL

TRANSMISSION, Manual...80 MP
Multi-viscosity 80-90 may be used
[★] Maintain level to fill plug hole
CAPACITY 3-speed, 2 pints; 4-speed, 3 pints
DRAIN and REFILL Not recommended

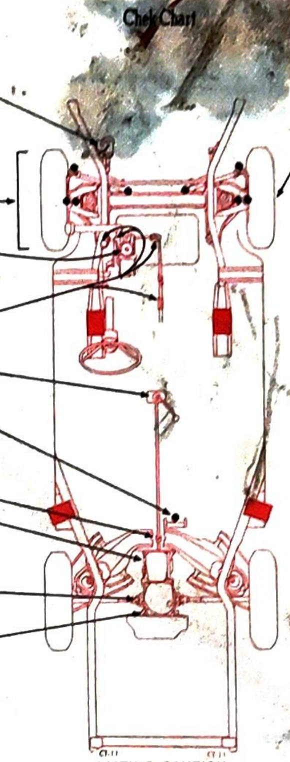
[30] **Universal Joints** Both sides.......Repack WB
More often under adverse conditions
1963 only. 1964, no service required

DIFFERENTIAL............80 MP*
Multi-viscosity 80-90 may be used
[★] 1963, maintain level to fill plug hole
1964, check lubricant level with axle dipstick located in engine compartment, when checking crankcase. Manual transmission models, add lubricant thru fill hole in transmission to level plug hole in differential. Powerglide models, fill thru level plug hole in differential
CAPACITY 4½ pints
DRAIN and REFILL Not recommended
POSITRACTION IDENTIFICATION: Circular metal tag under fill plug

GAS TANK...............Gallons
All models 14

TIRES	Pressure Front	Rear
6.50-13, 6.70-13	15	26

[6] Rotate tires, Method B



LIFTING CAUTION
Never lift car by front or rear bumpers

Front Wheel Bearings..........Repack WB
1963 ....[30]
1964 ....[36]
Initial torque, 7 ft. lb.; final adjustment, back off 1 full flat ⅙ turn

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required
Bleeding sequence: LR, RR, RF, LF

KEY TO INTERVALS

[★] Every 6,000 miles or 6 months
[6] Every 6,000 miles
[12] Every 12,000 miles
[24] Every 24,000 miles
[30] Every 30,000 miles
[36] Every 36,000 miles
[OC] Every crankcase oil change
[C] Conditional service
Replace fuel filter elements if carburetor flooding occurs

PCV System.............................Test [OC]
As required, replace valve and clean hose and fittings
No valve on Turbo-Charged models

TRANSMISSION, Automatic..AF
Check level, engine idling, NEUTRAL position..[★]
Do not overfill
DRAIN and REFILL Not recommended

Axle Dipstick 1964..............Check level

Air Cleaner Elements...................Service
Some models have only one air cleaner
Dry type...............................Check [12]
Replace if necessary. If not replaced, recheck element every 6,000 miles until replaced
Oil bath....................Wash and fill MO [★]
Summer, 50; winter, 20
Polyurethane................Wash and oil MO [★]
More often with prolonged dusty driving

Crankcase Dipstick..................Check level

Oil Fill Cap

Distributor Cam Lubricator Wick
Rotate 180°..............................[12]
Replace..................................[24]

CRANKCASE	"MS"	MO
Above +32°	30	10W-30
Above −10°	10W	10W-30
Below −10°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

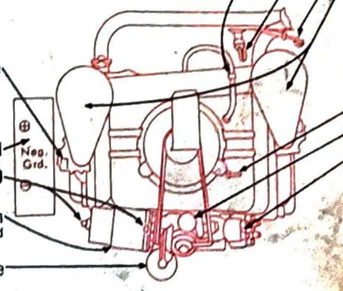
Fuel Filter Element...................Replace
[C] In carburetor fuel inlet, both sides
[12] Turbo-Charged models
One filter in fuel line at left of air cleaner

[★] **Battery**.......................Test and fill

[12] **Generator** (2 oil cups)..................MO
Do not overfill cup near pulley

[12] **Engine Oil Cooler**..................Clean
Remove cover, clean with brush or compressed air

[★] **Oil Filter**.........................Replace
Add extra pint oil
More often with prolonged dusty driving



■ Position for lift adapter
● Lubrication fitting

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CL Chassis Lubricant
Water Resistant EP Type
HB Hydraulic Brake Fluid, Heavy-Duty
GM Brake Fluid Super No. 11
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
Meeting Specification MIL-L-2105B
SG Steering Gear Lubricant
WB Wheel Bearing Grease

* Positraction, use same lubricant as standard axle

CHEVROLET CHEVY II 4, 6

1963-64 All Models

1963

1964

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22F	44
	24T	70

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
All 130
Maximum variation between cylinders, 20 psi

SPARK PLUGS

AC 46N
Gap: .035"
Torque: 20-25 ft. lb.

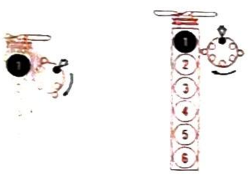
IGNITION POINTS

Delco
Gap: .016" used; .019" new
Dwell angle: 31°-34°

CONDENSER

Delco
Capacity: .18-.25 mfd

Cylinder Numbering Sequence



Firing Order:
4-cyl. 1, 3, 4, 2
6-cyl. 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed to 500 rpm
6. Observe timing at crankshaft pulley and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting

Timing Setting (Before Top Dead Center):
4-cyl. 4° (Range, 4°-8°)
6-cyl.: Hi-Thrift, 8° (Range, 6°-10°)
Turbo-Fire 4° (Range, 4°-8°)
(Each line equals 2°)

FUEL PUMP

AC mechanical
Pressure: 3½-4½ lb. at idle to 1000 rpm
Volume: 1 pint in 30-45 seconds at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER			
4-cyl. 1-bbl. YF	1½	manual	manual
ROCHESTER			
6-cyl. 1-bbl. BV	1½	*	*

* One rod diameter above top of hole in choke lever

ENGINE IDLE SPEED

Manual Trans. 475-525 rpm
Auto. Trans. 475-525 rpm in DRIVE

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
4-cyl.	9	8
6-cyl.	12	11

Cooling system pressure, 13 pounds; with air conditioning, 15 pounds

★ **Power Steering Reservoir** .... AF
With fluid at operating temperature and wheels in straight ahead position, fill to FULL mark on gage

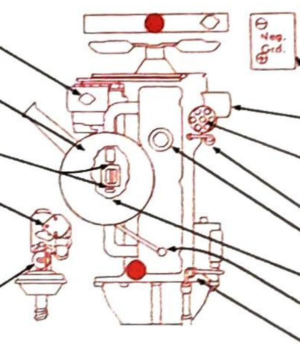
Air Cleaner Element .... Service
12 Polyurethane .... Wash and oil MO
More often with prolonged dusty driving

C **Manifold Heat Control Valve** .... MH
Lubricate if shaft is not free

Steering Gear .... SG
30 1963
36 1964
Remove forward and outboard steering gear cover attaching screws. Inject lubricant into forward screw hole until lubricant comes out other hole. Replace screws

★ **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir

Chek-Chart



CRANKCASE .... "MS" MO

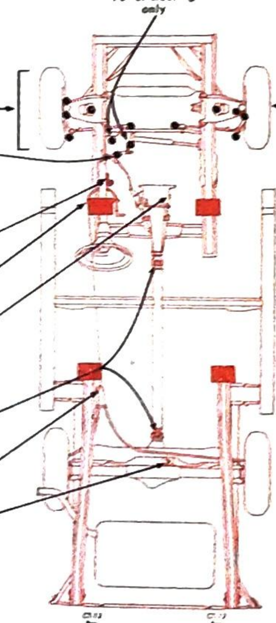
Above +32°	20,20W*	10W-30
Above 0°	10W	10W-30
Below 0°	5W	5W-20

* Use 30 for sustained high speed or above +90°
CAPACITY 4-cyl., 3½ quarts; 6-cyl., 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill ★
Oil Filter .... Replace ★
4-cyl., add extra pint oil; 6-cyl., extra quart
More often with prolonged dusty driving
Distributor Cam Lubricator Wick
Rotate 180° 12
Replace 24
Crankcase Dipstick .... Check level
Oil Fill Cap .... Wash and oil MO OC
With closed PCV system, sealed cap, no service
Fuel Filter Element .... Replace C
Located in carburetor fuel inlet
PCV System .... Test OC
As required, replace valve and clean hose

TRANSMISSION, Automatic .. AF

Check level, engine idling, NEUTRAL position ... ★
DRAIN and REFILL Not recommended



★ **Front Suspension and Steering Linkage** .....(10 or 12 fittings) CL

Clutch Cross Shaft CL
★ 1963 (fitting)
36 1964 (plug)
Install fitting to lubricate

★ **Powerglide Control Shaft Linkage** ..... Coat CL

★ **Parking Brake Cable** .... Coat CL

TRANSMISSION, Manual .. 80 MP

Multi-viscosity 80-90 may be used
★ Maintain level to fill plug hole
CAPACITY 2 pints
DRAIN and REFILL Not recommended

30 **Universal Joints** 1963 .... Repack WB
More often under adverse conditions
1964, no service required

★ **Parking Brake Cable** .... Coat CL

DIFFERENTIAL .... 80 MP•

Multi-viscosity 80-90 may be used
★ Maintain level to fill plug hole
1963, plug at rear of housing
CAPACITY 1963, 4 pints; 1964, 3¾ pints
DRAIN and REFILL Not recommended
POSITRACTION IDENTIFICATION:
Circular metal tag under fill plug

GAS TANK .... Gallons

All models 16

TIRES .... Pressure Front Rear

	Front	Rear
6.00-13, 6.50-13, 6.50-14	24	24
Station wagons	24*	28*

* With heavy loads, front 22, rear 30

6 Rotate tires, Method B

Front Wheel Bearings .... Repack WB
1963 30
1964 36
Initial torque, 8½ ft. lb.; final adjustment, back off 1 full flat, ⅙ turn

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required
Bleeding sequence: LR, RR, RF, LF

KEY TO INTERVALS

★ Every 6,000 miles or 6 months
6 Every 6,000 miles
12 Every 12,000 miles
24 Every 24,000 miles
30 Every 30,000 miles
36 Every 36,000 miles
OC Every crankcase oil change
C Conditional service
Lubricate manifold heat control valve if shaft is not free
Replace fuel filter element if carburetor flooding occurs

■ Position for lift adapter
• Lubrication fitting
● Cooling system drain

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CL Chassis Lubricant
Water Resistant EP Type
HB Hydraulic Brake Fluid, Heavy-Duty
GM Brake Fluid Super No. 11
MH Graphite mixed with alcohol
MO Motor Oil
MP• Multi-Purpose Gear Lubricant
Meeting Specification MIL-L-2105B
SG Steering Gear Lubricant
WB Wheel Bearing Grease

• For Positraction differential, use Special Positraction Lubricant

HOOD RELEASE: Front

CHEVROLET CHEVY II V-8

1964 All Models

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22F	44
	24T	70

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi

All 150
Maximum variation between cylinders, 20 psi

SPARK PLUGS

AC 45
Gap: .035"
Torque: 20-25 ft. lb.

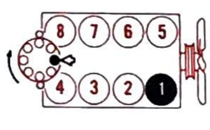
IGNITION POINTS

Delco
Gap: .016" used; .019" new
Dwell angle: 28°-32°

CONDENSER

Delco
Capacity: .18-.25 mfd

Cylinder Numbering Sequence

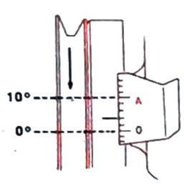


Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
4° (Range, 4°-8°)
(Each line equals 2°)

FUEL PUMP

AC mechanical
Pressure: 5¼-6½ lb. at idle to 1000 rpm
Volume: 1 pint in 30-45 seconds at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
ROCHESTER 2-bbl. 2GV	1½	*	*

* One-half rod diameter above top of hole in choke lever

ENGINE IDLE SPEED

Manual Trans. 475-525 rpm
Auto. Trans. 450-500 rpm in DRIVE

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	17	16

Cooling system pressure, 13 pounds; with air conditioning, 15 pounds

★ **Power Steering Reservoir** .... AF
With fluid at operating temperature and wheels in straight ahead position, fill to FULL mark on gage

Crankcase Dipstick .... Check level

OC **PCV System** .... Test
As required, replace valve and clean hose and fittings

36 **Steering Gear** .... SG
Remove forward and outboard steering gear cover attaching screws. Inject lubricant into forward screw hole until lubricant comes out other hole. Replace screws

★ **Brake Master Cylinder** (cover or plug) ...... HB
Fill to ¼ inch below top of fill hole

★ **Oil Filter** (under car) .... Replace
Add extra quart oil
More often with prolonged dusty driving

★ **Front Suspension and Steering Linkage** ..... (10 or 12 fittings) CL

36 **Clutch Cross Shaft** (plug) CL
Install fitting to lubricate

★ **Powerglide Control Shaft Linkage** .... Coat CL

★ **Parking Brake Cable** .... Coat CL

TRANSMISSION, Manual .. 80 MP
Multi-viscosity 80-90 may be used
★ Maintain level to fill plug hole
CAPACITY 3-speed, 2 pints; 4-speed, 3 pints
DRAIN and REFILL Not recommended

★ **Parking Brake Cable** .... Coat CL

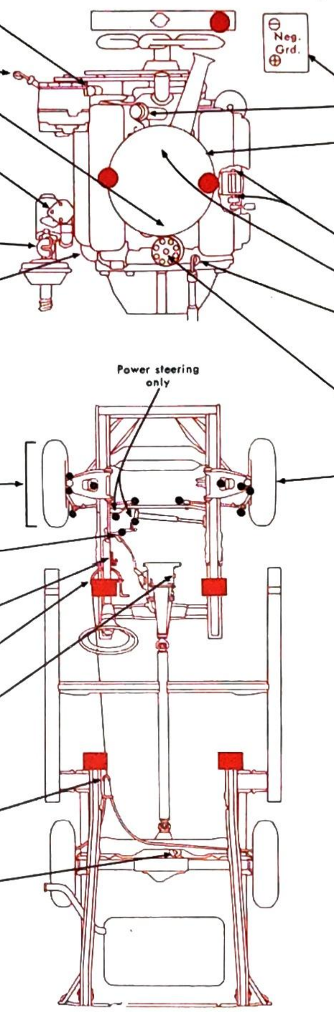
DIFFERENTIAL .... 80 MP*
Multi-viscosity 80-90 may be used
★ Maintain level to fill plug hole
CAPACITY 3¾ pints
DRAIN and REFILL Not recommended
POSITRACTION IDENTIFICATION:
Circular metal tag under fill plug

GAS TANK .... Gallons
All models 16

TIRES .... Pressure	Front	Rear
6.50-14	24	24
Station wagon	24*	28*

* With heavy load, front 22, rear 30

6 Rotate tires, Method B



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	20,20W*	10W-30
Above 0°	10W	10W-30
Below 0°	5W	5W-20

* Use 30 for sustained high speed or above +90°
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill ★

Oil Fill Cap .... Wash and oil MO OC
With closed PCV system, sealed cap, no service

Air Cleaner Element .... Service
Dry type .... Check 12
Replace if necessary. If not replaced, recheck element every 6,000 miles until replaced
Polyurethane .... Wash and oil MO 12
More often with prolonged dusty driving

Manifold Heat Control Valve .... MH C
Lubricate if shaft is not free

Fuel Filter Element .... Replace C
Located in carburetor fuel inlet

TRANSMISSION, Automatic .. AF
Check level, engine idling, NEUTRAL position ... ★
DRAIN and REFILL Not recommended

Distributor Cam Lubricator Wick
Rotate, end for end 12
Replace 24

Front Wheel Bearings .... Repack WB 36
Initial torque, 8⅓ ft. lb.; final adjustment, back off 1 full flat, ⅛ turn

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required
Bleeding sequence: LR, RR, RF, LF

KEY TO INTERVALS

★ Every 6,000 miles or 6 months
6 Every 6,000 miles
12 Every 12,000 miles
24 Every 24,000 miles
36 Every 36,000 miles
OC Every crankcase oil change
C Conditional service
Replace fuel filter element if carburetor flooding occurs
Lubricate manifold heat control valve if shaft is not free

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CL Chassis Lubricant
Water Resistant EP Type
HB Hydraulic Brake Fluid, Heavy-Duty
GM Brake Fluid Super No. 11
MH Graphite mixed with alcohol
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
Meeting Specification MIL-L-2105B
SG Steering Gear Lubricant
WB Wheel Bearing Grease

* For Positraction differential, use Special Positraction Lubricant

CHEVROLET CORVETTE

1963-64 All Models

HOOD RELEASE: Inside

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	61

COMPRESSION PRESSURE

(at cranking speed with throttle open)	psi
With standard camshaft	160
With special camshaft	150

Maximum variation between cylinders, 20 psi

SPARK PLUGS

AC 44 for moderate service
Gap: .035"
Torque: 20-25 ft. lb.

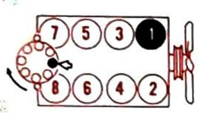
IGNITION POINTS

Delco
Gap: .016" used; .019" new
Dwell angle: 28°-32°

CONDENSER

Delco
Capacity: .18-.25 mfd

Cylinder Numbering Sequence

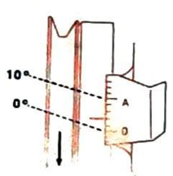


Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening
5. Set engine speed at idle with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
250-hp, WCFB, 4° (Range, 4°-10°)
300-hp, AFB, 8° (Range, 6°-12°)
340-hp, AFB, 10°
360-hp, Fuel injection, 10°
365-hp, Holley, 10°
375-hp, Fuel injection, 10°
(Each line equals 2°)

FUEL PUMP

AC mechanical
Pressure: 5¼-6½ lb. at idle to 1000 rpm
Volume: 1 pint in 30-45 seconds at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER			
4-bbl. AFB	1½	1 lean	1 lean
4-bbl. WCFB	1	index	index
HOLLEY			
4-bbl.	1	1 lean	1 lean

ENGINE IDLE SPEED

Manual Trans.: Fuel injection, 825-875 rpm; special cam, 1963 725-775 rpm, 1964 775-825 rpm; others, 450-500 rpm
Auto. Trans. 425-475 rpm in DRIVE

VALVE CLEARANCES

(engine hot)
340-, 360-hp. engs.: Intake .008"; exhaust .018"
365-, 375-hp engs.: Intake .030"; exhaust .030"
250-, 300-hp. engs.: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM .... Quarts With Heater
All models 16½
Cooling system pressure, 13 pounds

Oil Fill Cap ....

★ **Power Steering Reservoir** .... AF
With fluid at operating temperature and wheels in straight ahead position, fill to FULL mark on gage

Air Cleaner Element
12 Polyurethane .... Wash and oil MO
More often with prolonged dusty driving

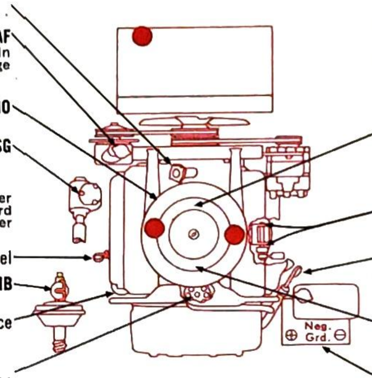
Steering Gear .... SG
30 1963
36 1964
Remove forward and outboard steering gear cover attaching screws. Inject lubricant into forward screw hole until lubricant comes out of other hole. Replace screws

Crankcase Dipstick .... Check level

★ **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of fill hole

★ **Oil Filter** (under car) .... Replace
Add extra quart oil
More often with prolonged dusty driving

Distributor Cam Lubricator Wick ....
12 Rotate, end for end
24 Replace



CRANKCASE .... "MS" MO
Above +32° 20,20W* 10W-30
Above 0° 10W 10W-30
Below 0° 5W 5W-20
* Use 30 for sustained high-speed or above +90°
CAPACITY 250- and 300-hp engines, 4 quarts; 340- and 360-hp engines, 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Fuel Filter Element .... Replace
In carburetor fuel inlet C
In fuel line 12

Manifold Heat Control Valve .... MH C
Lubricate if shaft is not free

TRANSMISSION, Automatic .. AF
Check level, engine idling, NEUTRAL position ... ★
DRAIN and REFILL Not recommended

PCV System .... Test OC
As required, replace valve and clean hose and fittings

Battery .... Test and fill ★

★ **Front Suspension and Steering Linkage** ..... (9 or 10 fittings) CL

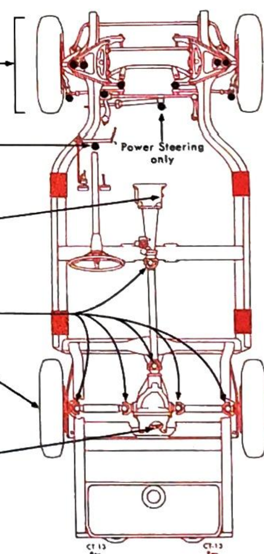
Clutch Cross Shaft CL
★ 1963 (fitting)
36 1964 (plug)
Install fitting to lubricate

TRANSMISSION, Manual .. 80 MP
Multi-viscosity 80-90 may be used
★ Maintain level to fill plug hole
CAPACITY 3-speed, 2 pints; 4-speed, 2½ pints
DRAIN and REFILL Not recommended

30 **Universal Joints** 1963 .... Repack WB
More often under adverse conditions
1964, no service required

Rear Wheel Bearings .... Repack WB
30 1963
36 1964
Outer universal joints and propeller shaft must be removed

DIFFERENTIAL .... 80 MP*
Multi-viscosity 80-90 may be used
★ Maintain level to fill plug hole
CAPACITY 3¾ pints
DRAIN and REFILL Not recommended
POSITRACTION IDENTIFICATION:
Circular metal tag under fill plug



Front Wheel Bearings .... Repack WB
1963 30
1964 36
Initial torque, 15 ft. lb.; final adjustment, back off 1 full flat, ¼ turn

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required
Bleeding sequence: LR, RR, RF, LF

GAS TANK .... Gallons
All models 20

TIRES .... Pressure Front Rear
6.70-15 .... 24* 24*
* For sustained high-speed driving, 36
6 Rotate tires, Method B

Position for lift adapter
Lubrication fitting
Cooling system drain

KEY TO INTERVALS

★ Every 6,000 miles or 6 months
6 Every 6,000 miles
12 Every 12,000 miles
24 Every 24,000 miles
30 Every 30,000 miles
36 Every 36,000 miles
OC Every crankcase oil change
C Conditional service
Replace fuel filter element in carburetor fuel inlet only if flooding occurs
Lubricate manifold heat control valve if shaft is not free

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CL Chassis Lubricant — Water Resistant EP Type
HB Hydraulic Brake Fluid, Heavy-Duty — GM Brake Fluid Super No. 11
MH Graphite mixed with alcohol
MO Motor Oil
MP* Multi-Purpose Gear Lubricant — Meeting Specification MIL-L-2105B
SG Steering Gear Lubricant
WB Wheel Bearing Grease

* For Positraction differential, use Special Positraction Lubricant

CHEVROLET CHEVELLE 6

1964 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22F	44
	24T	70

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
All 130
Maximum variation between cylinders, 20 psi

SPARK PLUGS

AC 46N
Gap: .035"
Torque: 20-25 ft. lb.

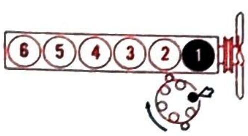
IGNITION POINTS

Delco
Gap: .016" used; .019" new
Dwell angle: 31°-34°

CONDENSER

Delco
Capacity: .18-.25 mfd

Cylinder Numbering Sequence

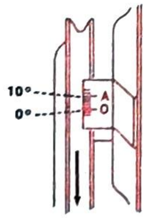


Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft pulley and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
Hi-Thrift, 8° (Range, 6°-10°)
Turbo-Fire, 4° (Range, 4°-8°)
(Each line equals 2°)

FUEL PUMP

AC mechanical
Pressure: 3½-4½ lb. at idle to 1000 rpm
Volume: 1 pint in 30-45 seconds at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
ROCHESTER 1-bbl. BV	1½	*	*

* One rod diameter above top of hole in choke lever

ENGINE IDLE SPEED

Manual Trans. 475-525 rpm
Auto. Trans. 475-525 rpm in DRIVE

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	12	11
With air conditioning	14	13

Cooling system pressure, 13 pounds; with air conditioning, 15 pounds

[★] **Power Steering Reservoir** .... AF
With fluid at operating temperature and wheels in straight ahead position, fill to FULL mark on gage

[36] **Manual Steering Gear** .... SG
Remove forward and outboard steering gear cover attaching screws. Inject lubricant into forward screw hole until lubricant comes out other hole. Replace screws

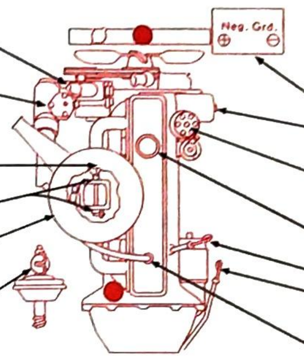
[C] **Fuel Filter Element** .... Replace
Located in carburetor fuel inlet

[C] **Manifold Heat Control Valve** .... MH
Lubricate if shaft is not free

Air Cleaner Element .... Service
[12] Polyurethane .... Wash and oil MO
More often with prolonged dusty driving

[★] **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir

Chek-Chart



CRANKCASE .... "MS" MO

Above +32°	20,20W*	10W-30
Above 0°	10W	10W-30
Below 0°	5W	5W-20

* Use 30 for sustained high speed or above +90°
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill [★]

Oil Filter .... Replace [★]
Add extra quart oil
More often with prolonged dusty driving

Distributor Cam Lubricator Wick
Rotate 180° .... [12]
Replace .... [24]

Oil Fill Cap .... Wash and oil MO [OC]
With closed PCV system, sealed cap, no service

Crankcase Dipstick .... Check level

TRANSMISSION, Automatic .. AF
Check level, engine idling, NEUTRAL position... [★]
DRAIN and REFILL Not recommended

PCV System .... Test [OC]
As required, replace valve and clean hose and fittings

[★] **Front Suspension and Steering Linkage** .... (8 fittings) CL

[36] **Clutch Cross Shaft** (plug) CL
Install fitting to lubricate

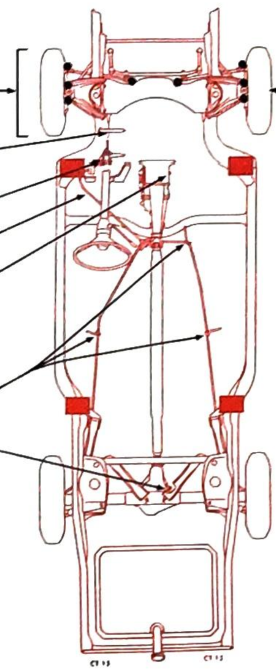
[★] **Powerglide Control Shaft Linkage** ..... Coat CL

[★] **Parking Brake Cables and Pulleys** ..... Coat CL

TRANSMISSION, Manual .. 80 MP
Multi-viscosity 80-90 may be used
[★] Maintain level to fill plug hole
CAPACITY 2 pints; with overdrive, 3 pints
DRAIN and REFILL Not recommended
Overdrive drain and fill thru transmission

[★] **Parking Brake Cable Guides** .... Coat CL

DIFFERENTIAL .... 80 MP*
Multi-viscosity 80-90 may be used
[★] Maintain level to fill plug hole
CAPACITY 3¾ pints
DRAIN and REFILL Not recommended
POSITRACTION IDENTIFICATION:
Circular metal tag under fill plug



Front Wheel Bearings .... Repack WB [36]
Initial torque, 15 ft. lb.; final adjustment, back off 1 full flat, ¼ turn

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required
Bleeding sequence: LR, RR, RF, LF
Power brake (engine stopped), power brake slave cylinder, power brake valve **LR, RR, RF, LF**

GAS TANK .... Gallons
All models 20

TIRES .... Pressure Front Rear

	Front	Rear
6.50-14, 7.00-14, 7.50-14	24	24
Station wagon and El Camino	24*	28*

* Station wagon with heavy load, front 22, rear 30

[6] Rotate tires, Method B

■ Position for lift adapter
• Lubrication fitting
● Cooling system drain

KEY TO INTERVALS

[★] Every 6,000 miles or 6 months
[6] Every 6,000 miles
[12] Every 12,000 miles
[24] Every 24,000 miles
[36] Every 36,000 miles
[OC] Every crankcase oil change
[C] Conditional service
Lubricate manifold heat control valve if shaft is not free
Replace fuel filter element if carburetor flooding occurs

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CL Chassis Lubricant
Water Resistant EP Type
HB Hydraulic Brake Fluid, Heavy-Duty
GM Brake Fluid Super No. 11
MH Graphite mixed with alcohol
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
Meeting Specification MIL-L-2105B
SG Steering Gear Lubricant
WB Wheel Bearing Grease

* For Positraction differential, use Special Positraction Lubricant

CHEVROLET CHEVELLE V-8

1964 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22F	44
	24T	70

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
All 150
Maximum variation between cylinders, 20 psi

SPARK PLUGS

AC: 2-bbl. carb. 45; 4-bbl. carb. 44
Gap: .035"
Torque: 20-25 ft. lb.

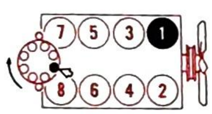
IGNITION POINTS

Delco
Gap: .016" used; .019" new
Dwell angle: 28°-32°

CONDENSER

Delco
Capacity: .18-.25 mfd

Cylinder Numbering Sequence

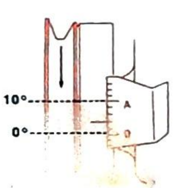


Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
4° (Range, 4°-8°)
(Each line equals 2°)

FUEL PUMP

AC mechanical
Pressure: 5¼-6½ lb. at idle to 1000 rpm
Volume: 1 pint in 30-45 seconds at idle rpm

CARBURETOR ADJUSTMENT

ROCHESTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
2-bbl. 2GV	1½	*	*
4-bbl. 4GC	1½	index	index

* One-half rod diameter above top of hole in choke lever

ENGINE IDLE SPEED

Manual Trans. 475-525 rpm
Auto. Trans. 450-500 rpm in DRIVE

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	17	16
With air conditioning	18	17

Cooling system pressure, 13 pounds; with air conditioning, 15 pounds

[36] **Manual Steering Gear** .... SG
Remove forward and outboard steering gear cover attaching screws. Inject lubricant into forward screw hole until lubricant comes out of other hole. Replace screws

[★] **Power Steering Reservoir** .... AF
With fluid at operating temperature and wheels in straight ahead position, fill to FULL mark on gage

[OC] **PCV System** .... Test
As required, replace valve and clean hose and fittings

Crankcase Dipstick .... Check level

[★] **Brake Master Cylinder** (cover or plug) ..... HB
Fill to ¼ inch below top of reservoir

[★] **Oil Filter** (under car) .... Replace
Add extra quart oil
More often with prolonged dusty driving

Chek-Chart

CRANKCASE .... "MS" MO

Above +32°	20,20W*	10W-30
Above 0°	10W	10W-30
Below 0°	5W	5W-20

* Use 30 for sustained high speed or above +90°

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill [★]

Oil Fill Cap .... Wash and oil MO [OC]
With closed PCV system, sealed cap, no service

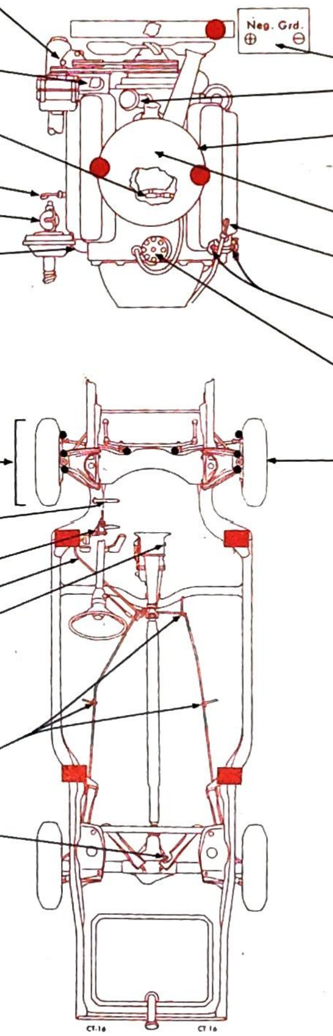
Air Cleaner Element .... Service
Dry type .... Check [12]
Replace if necessary. If not replaced, recheck element every 6,000 miles until replaced

Fuel Filter Element .... Replace [C]
Located in carburetor fuel inlet

TRANSMISSION, Automatic .. AF
Check level, engine idling, NEUTRAL position ... [★]
DRAIN and REFILL Not recommended

Manifold Heat Control Valve .... MH [C]
Lubricate if shaft is not free

Distributor Cam Lubricator Wick
Rotate, end for end .... [12]
Replace .... [24]



[★] **Front Suspension and Steering Linkage** .... (8 fittings) CL

Front Wheel Bearings .... Repack WB [36]
Initial torque, 15 ft. lb.; final adjustment, back off 1 full flat, ⅙ turn

[36] **Clutch Cross Shaft** (plug) CL
Install fitting to lubricate

[★] **Powerglide Control Shaft Linkage** ..... Coat CL

[★] **Parking Brake Cables and Pulleys** ..... Coat CL

TRANSMISSION, Manual .. 80 MP
Multi-viscosity 80-90 may be used
[★] Maintain level to fill plug hole
CAPACITY 3-speed, 2 pints; with overdrive, 3 pints; 4-speed, 3 pints
DRAIN and REFILL Not recommended
Overdrive drain and fill thru transmission

[★] **Parking Brake Cable Guides** .... Coat CL

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required
Bleeding sequence: LR, RR, RF, LF
Power brake (engine stopped), power brake slave cylinder, power brake valve LR, RR, RF, LF

DIFFERENTIAL .... 80 MP*
Multi-viscosity 80-90 may be used
[★] Maintain level to fill plug hole
CAPACITY 3¾ pints
DRAIN and REFILL Not recommended
POSITRACTION IDENTIFICATION:
Circular metal tag under fill plug

KEY TO INTERVALS

- [★] Every 6,000 miles or 6 months
- [6] Every 6,000 miles
- [12] Every 12,000 miles
- [24] Every 24,000 miles
- [36] Every 36,000 miles
- [OC] Every crankcase oil change
- [C] Conditional service
  Replace fuel filter element if carburetor flooding occurs
  Lubricate manifold heat control valve if shaft is not free

GAS TANK .... Gallons
All models 20

TIRES .... Pressure Front Rear

	Front	Rear
6.50-14, 7.00-14, 7.50-14	24	24
Station wagon and El Camino	24*	28*

* Station wagon with heavy load, front 22, rear 30

[6] Rotate tires, Method B

■ Position for lift adapter
• Lubrication fitting
● Cooling system drain

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A	HB Hydraulic Brake Fluid, Heavy-Duty GM Brake Fluid Super No. 11	MP* Multi-Purpose Gear Lubricant Meeting Specification MIL-L-2105B
CL Chassis Lubricant Water Resistant EP Type	MH Graphite mixed with alcohol	SG Steering Gear Lubricant
	MO Motor Oil	WB Wheel Bearing Grease

* For Positraction differential, use Special Positraction Lubricant

CHRYSLER

1960-61 All Models

HOOD RELEASE: Inside, 1960; Front, 1961

TUNE-UP DATA

See Service Instructions for Procedure

(Following data does not include 300 series)

BATTERY

	AABM Group No.	Amp. Hrs.
1960 All	27H	70
1961 Newport, Windsor	24H	59
	27H	70
New Yorker	27H	70

COMPRESSION PRESSURE

(psi at cranking speed, throttle open)	min.	max.
1961 Newport	135	165*
Others	150	180**

* Maximum variation between cylinders, 20 psi
** Maximum variation between cylinders, 25 psi

SPARK PLUGS

Champion J-12Y
Gap: .035"
Torque: 30 ft. lb.

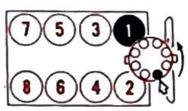
IGNITION POINTS

Chrysler 1961 New Yorker; Autolite Others
Gap: .014"-.019"
Dwell angle: 27°-32°

CONDENSER

Chrysler 1961 New Yorker; Autolite Others
Capacity: .25-.285 mfd

Cylinder Numbering Sequence

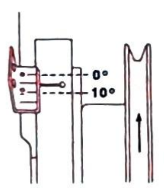


Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to adapter inserted in No. 1 distributor cap tower
   Note: Do not puncture spark plug cable insulation
4. Disconnect vacuum line at distributor
5. Set idle speed to 475-500 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 10°

FUEL PUMP

Carter model M-2769S
Pressure: 3½-5 lb. at 500 rpm
Volume: 1 quart per minute at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER			
2-bbl. BBD-2923SA	1	index	index
2-bbl. BBD-2924S	1	—	index
2-bbl. BBD-3132S*	1	index	index
4-bbl. AFB-2903S	1-2	—	1 rich
4-bbl. AFB-2927S	1-2	—	2 rich
4-bbl. AFB-3108S	1½	—	2 rich
4-bbl. AFB-3134S	1½	—	2 rich
STROMBERG			
2-bbl. WWC3-188	½-⅝	1 rich	1 rich

* With closed crankcase ventilation system

ENGINE IDLE SPEED

Manual Trans. 500 rpm with headlights on high beam
Auto. Trans. 500 rpm in NEUTRAL with headlights on high beam
Air Cond. 575 rpm in DRIVE with unit turned ON with headlights on high beam

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	17	16

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

4 Oil Filter (under car) .... Replace
Add extra quart oil

★ Battery .... Test and fill
Caution: Do not ground positive terminal under any circumstances

★ Power Steering Reservoir .... PS
Fill to level on gage. Without gage, to base of filler neck when cold, halfway when hot

Crankcase Dipstick .... Check level

★ Oil Fill Cap .... Wash and oil 30 MO

Air Cleaner Element .... Service
5 Dry type .... Clean
15 Dry type .... Replace

★ Manual Steering Gear (plug) .... MP
Above -10°, 90; below -10°, 80; below -30°, 75

★ Brake Master Cylinder (cover) .... HB
Fill to ¼ inch below top of reservoir

★ Front Suspension and Steering Linkage .... (8 fittings) CL

★ Torque Shaft CL

TRANSMISSION, Manual ...... AF

★ Maintain level to fill plug hole
CAPACITY 4¼ pints, refill approx. 3½ pints
20 DRAIN and REFILL

10 Gearshift Lever .... MO
Remove rubber boot from floor panel, apply lubricant to pivot points and yoke selector mechanism

20 Universal Joints .... Repack UJ
Use only 2 ounces in front joint

DIFFERENTIAL .... MP*

Above -10°, 90; below -10°, 80; below -30°, 75
★ Maintain level ½ inch below fill plug hole
CAPACITY 4 pints
20 DRAIN and REFILL
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK .... Gallons

Town & Country	21
All other models	23

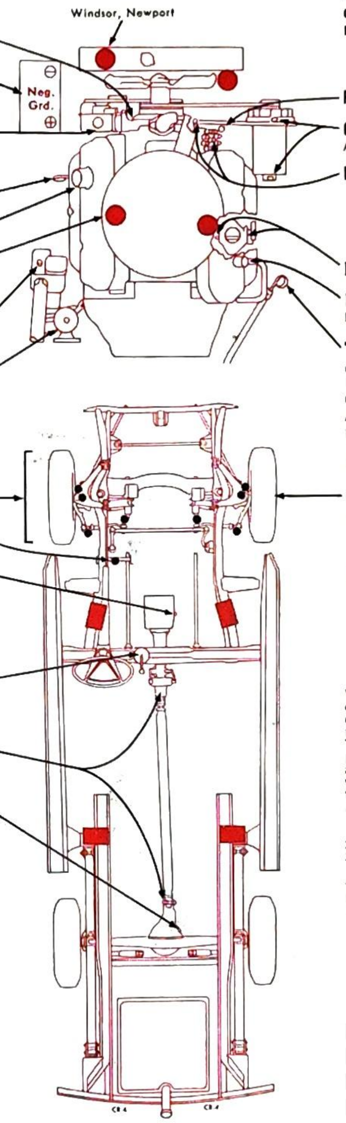
TIRES

.... Pressure	Front	Rear
8.00-15 300-F, -G	24	24
8.00-14 Windsor, Newport	24	22
8.50-14 Newport Town and Country	22	24*
8.50-14 Saratoga (1960)	22	22
8.50-14 New Yorker (1961)	24	22
9.00-14 New Yorker, 300-F (1960)	22	22
Town and Country	22	24*

* With heavy load, 28

For Captive-Air tires inner chamber pressure must be 4 to 6 pounds higher than outer chamber pressure shown

6 Rotate tires, Method B, then balance wheels
Captive-Air tires, Method C



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	30	20W-40, 10W-30
Above +10°	20W	10W-30
Above -10°	10W	10W-30, 5W-20
Below -10°	5W	5W-20

CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Fuel Filter Element .... Replace 23

Generator (2 oil cups) .... MO ★
Alternator, no lubrication

Distributor Shaft (oil cup) .... MO ★
Model 300 (grease cup) .... CL ★
1 turn at each lubrication period
Wick under rotor .... Sparingly MO 10

Manifold Heat Control Valve Shaft .... MH ★

PCV System Valve .... CC 10
Disassemble and clean

TRANSMISSION, Automatic .. AF

Check level, engine idling and thoroughly warm, NEUTRAL position ★

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	11

DRAIN and REFILL 10
Remove 1 converter plug and disconnect fill pipe
Drain more frequently under severe service

Front Wheel Bearings .... Check WB 10
Clean and repack if necessary
Tighten front wheel adjusting nut to 90 in. lb., position lock nut over adjusting nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Two adjustment cams are provided on each support plate. To tighten, turn both front brake cams and rear brake front cam in direction of forward wheel rotation. Tighten rear brake rear cam in the reverse direction
Adjust the brakes as follows:
1. Turn one adjustment cam until heavy drag is felt when wheel is turned
2. Slowly back off cam until no drag is felt
3. Repeat steps 1 and 2 for other adjustment cam
4. Repeat steps 1, 2 and 3 for each brake

Bleeding sequence: RR, LR, RF, LF When bleeding front brakes, bleed lower cylinder first

KEY TO INTERVALS

★ Every 2,000 miles
4 Every 4,000 miles
5 Every 5,000 miles
6 Every 6,000 miles
10 Every 10,000 miles
15 Every 15,000 miles
20 Every 20,000 miles
23 Every 23,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CC Carburetor Cleaner
CL Chassis Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
MoPar Hi-Temp Brake Fluid
MH Manifold Heat Control Valve Solvent
MoPar Part No. 1879318
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
Meeting Specification MIL-L-2105B
PS Power Steering Fluid
MoPar Part No. 2084329
UJ Universal Joint Grease
WB Wheel Bearing Grease

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

CHRYSLER
1962-63 All Models

HOOD RELEASE: Front

TUNE-UP DATA
See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
Newport, 300	24H	59
	27H	70
New Yorker, 300H, -J	27H	70

COMPRESSION PRESSURE
(psi at cranking speed, throttle open)

	min.	max.
New Yorker, 300, -H, -J (Auto. Trans.)	130	165*
All others	125	155**

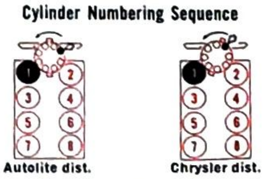
* Maximum variation between cylinders, 25 psi
** Maximum variation between cylinders, 20 psi

SPARK PLUGS
Champion: 300H, 1962 413 eng. with (2) 4-bbl. carbs.; 1963 300, Newport with dual points, J-9Y; 300J, XJ-10Y; others, J-12Y
Gap: .035"
Torque: 30 ft. lb.

IGNITION POINTS
Chrysler: Newport, 300, New Yorker
Autolite: 300H, -J; 1963 300, Newport (dual points)
Gap: .014"-.019"
Dwell angle: 1963 New Yorker, single points, 28°-33°; others, single points and each set of dual points, 27°-32°; dual points total dwell, 34°-40°

CONDENSER
Chrysler: Newport, 300, New Yorker
Autolite: 300H, -J; 1963 300, Newport (dual points)
Capacity: .25-.285 mfd

Cylinder Numbering Sequence

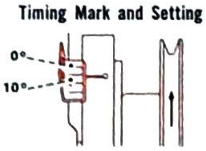


Autolite dist. Chrysler dist.

Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to adapter inserted in No. 1 distributor cap tower
   Note: Do not puncture spark plug cables
4. Disconnect vacuum line at distributor
5. Set idle speed to 475-500 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vac. line and reset to proper idle

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 300J, 12½°; others, 10°

FUEL PUMP
Carter model M-2769S
Pressure: 3½-5 lb. at idle rpm
Volume: 1 quart per minute at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER			
2-bbl. BBD-3244S	1	index	index
2-bbl. BBD-3245S	1	index	index
2-bbl. BBD-3476S	¾	2 rich	2 rich
4-bbl. AFB-3251S	1-2	2 rich	2 rich
4-bbl. AFB-3256S	1-2	2 rich	2 rich
4-bbl. AFB-3259S	1-2	1 rich	1 rich
(2) 4-bbl. AFB-3505S	1-2	manual	manual
STROMBERG			
2-bbl. WWC3-201	1-1½	1 rich	1 rich
2-bbl. WWC3-221	1-1½	1 rich	1 rich

ENGINE IDLE SPEED
Manual Trans. 500 rpm* with headlights on high beam
Auto. Trans. 500 rpm* in NEUTRAL with headlights on high beam
Air Cond. 500 rpm* in DRIVE with unit turned ON with headlights on high beam
* 300H, 650 rpm; 300J, 700-750 rpm
Air Cond. 750 rpm in DRIVE with unit turned ON

VALVE CLEARANCES
(engine hot and running)
300H: Intake .015"; exhaust .024"
300J: Intake .017"; exhaust .028" (engine not running)
Others: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	17	16

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

[★] **Oil Filter** (under car) .... Replace
Add extra quart oil

[OC] **Battery** .... Test and fill
Caution: Do not ground positive terminal

[★] **Power Steering Reservoir** .... PS
Fill to base of filler neck if cold, halfway when hot

[★] **Distributor Shaft** (oil cup) .... MO

[★] 300 (grease cup) CL
1 turn at each lubrication period
Wick under rotor .... Sparingly MO

[TY] 1963 [12] 1962

Crankcase Dipstick .... Check level

Oil Fill Cap .... Wash and oil 30 MO

[OC] 1963 [8] 1962

[32] **Automatic Trans. Filter** (under car) .... Replace
Replace at time of transmission drain

[★] **Manual Steering Gear** (plug) .... MP
Above -30°, 80; below -30°, 75

[★] **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir

Air Cleaner Element .... Service

[8] Dry type .... Clean

[32] Dry type .... Replace

[TY] **Carburetor Choke Piston** CC
Remove air cleaner to service. Apply cleaner while moving choke valve back and forth

Front Suspension .... (4 plugs) BJ

[★] Inspect seal, if damaged, replacement is necessary. After replacing seal or when relubricating, remove plug, use special gun or proper adapter. Install plug

[32] Relubricate using special adapter. Fill until grease flows from upper ball joint bleed holes or lower joint seal lower lip. Do not rupture seals. Reinstall plug

[★] **Steering Linkage** .... (4 sealed bearings)
Inspect seal, replace if damaged or worn

[32] **Torque Shaft** .... LM
Disassemble, clean and repack both ends

TRANSMISSION, Manual ..... AF

[★] Maintain level to fill plug hole
CAPACITY 4½ pints, refill approx. 3½ pints
DRAIN and REFILL

[32] 1962; 1963 Not recommended

[32] **Gearshift Lever** .... MO
Remove rubber boot from floor panel, apply lubricant to pivot points and yoke selector mechanism

Universal Joints .... UJ
Front, 2 ounces, grade 2; rear, grade 0

[TY] 1963 .... Inspect
Inspect for leaks, replace seals if necessary

[32] 1963, repack if used under severe service

[32] 1962, repack under all service conditions

DIFFERENTIAL .... MP*
Above -10°, 90; below -10°, 80; below -30°, 75

[★] Maintain level ½ inch below fill plug hole
CAPACITY 4 pints
DRAIN and REFILL

[C] 1963 [32] 1962

SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK .... Gallons

Town & Country	21
All other models	23

TIRES .... Pressure

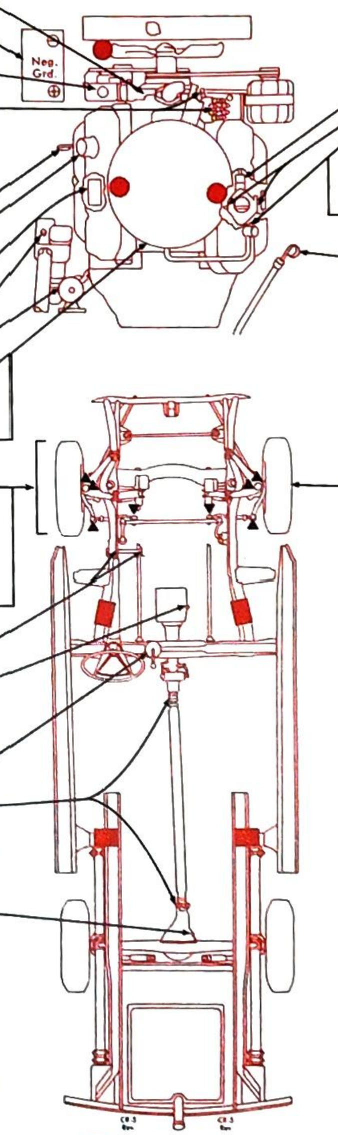
	Front	Rear
7.60-15 300H, -J	24	24
8.00-14 300, Newport	24	22
8.50-14 Newport, Town & Country	22	24*
8.50-14 New Yorker	24	22
9.00-14 New Yorker, Town & Country	22	24*

* With heavy load, 28

Rotate tires, Method A, then balance wheels

[5] 1963 [8] 1962

Chek-Chart



Position for lift adapter
▲ Prepacked bearing
● Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	30	20W-40, 10W-30
Above +10°	20W	10W-30
Above -10°	10W	10W-30, 5W-20
Below -10°	5W*	5W-20

* 1963, 5W-20
CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Fuel Filter .... Replace [16]

Manifold Heat Control Valve Shaft .... MH [★]

PCV System Valve CC
Remove and clean valve; also hose and carburetor, if passages are clogged

1962 [8] 1963 [TY]

Service more frequently under severe service

Crankcase Breather Outlet
Element 1962 .... Wash and oil 30 MO [8]

TRANSMISSION, Automatic .. AF
Check level, engine idling and thoroughly warm, NEUTRAL position [★]
To overcome difficult starting below -10°, replace 1½ pints fluid with kerosine. Do not dilute more than once during any one season

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	9

DRAIN and REFILL
Remove 1 converter plug, transmission plug and parking sprag cavity plug; also, remove oil pan on 1963 without transmission plug
1963 Regular drain not recommended
Severe service drain every 32,000 miles; extremely severe service every 10,000 miles
Replace transmission filter at time of drain
1962 [32]

Front Wheel Bearings .... WB
Inspect .... [16]
1963, clean and repack .... [C]
1962, clean and repack .... [32]

Tighten front wheel adjusting nut to 90 in. lb., position lock nut over adjusting nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key
1963, final adjustment should be 0, no preload to .003" end play

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, then need for service is indicated
Two adjustment cams are provided on each support plate. To tighten, turn both front brake cams and rear brake front cam in direction of forward wheel rotation. Tighten rear brake rear cam in the reverse direction
1962: Adjust the brakes as follows:
1. Turn one adjustment cam until heavy drag is felt when wheel is turned
2. Slowly back off cam until no drag is felt
3. Repeat steps 1 and 2 for other adjustment cam
4. Repeat steps 1, 2 and 3 for each brake

1963: Brakes are self-adjusting. Adjustment is not normally required
Bleeding sequence: RR, LR, RF, LF When bleeding front brakes, bleed lower cylinder first

KEY TO INTERVALS

[★] 1963, Twice yearly
1962, Every 4,000 miles
[5] Every 5,000 miles
[8] Every 8,000 miles
[12] Every 12,000 miles
[16] Every 16,000 miles
[32] Every 32,000 miles
[OC] Every crankcase oil change
[TY] Twice yearly
[C] Conditional service
1963, drain and refill differential for below -10° requirements
1963, clean and repack front wheel bearings if wheel is removed for service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant
MoPar Part No. 2298947
CC Carburetor Cleaner
CL Chassis Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
MoPar Hi-Temp Brake Fluid
LM Lithium Grease
MH Manifold Heat Control Valve Solvent
MoPar Part No. 1879318
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
Meeting Spec. MIL-L-2105B
PS Power Steering Fluid
MoPar Part No. 2084329
UJ Universal Joint Grease
WB Wheel Bearing Grease

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

CHRYSLER
1964 All Models

HOOD RELEASE: Front

TUNE-UP DATA
See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
Newport, 300	24H	59
	27H	70
New Yorker, 300K	27H	70

COMPRESSION PRESSURE
(psi at cranking speed, throttle open)

	min.	max.
Newport	125	155*
New Yorker, 300, 300K	130	165**

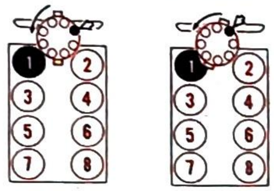
* Maximum variation between cylinders, 20 psi
** Maximum variation between cylinders, 25 psi

SPARK PLUGS
Champion J-12Y
Gap: .035"
Torque: 30 ft. lb.

IGNITION POINTS
Chrysler: Newport, 300, New Yorker
Prestolite: 300K, Newport (dual points)
Gap: .014"-.019"
Dwell angle: Single points, 28°-33°; each set of dual points, 27°-32°; dual points total dwell, 34°-40°

CONDENSER
Chrysler: Newport, 300, New Yorker
Prestolite: 300K, Newport (dual points)
Capacity: .25-.285 mfd

Cylinder Numbering Sequence

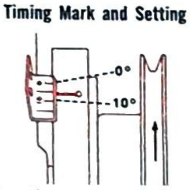


Prestolite dist. Chrysler dist.

Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to adapter inserted in No. 1 distributor cap tower
   Note: Do not puncture spark plug cables
4. Disconnect vacuum line at distributor
5. Set idle speed to 475-500 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pulley align
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vac. line and reset to proper idle

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 300K, 12½°; others, 10°

FUEL PUMP
Carter model M-3672S
Pressure: 3½-5 lb. at idle rpm
Volume: 1 quart per minute at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
BALL & BALL			
2-bbl. BBD-3685S	¾	2 rich	2 rich
CARTER			
4-bbl. AFB-3505S	1-2	manual	manual
4-bbl. AFB-3614S	1-2	index	index
4-bbl. AFB-3615S	1-2	2 rich	2 rich
4-bbl. AFB-3644S	1-2	2 rich	2 rich
STROMBERG			
2-bbl. WWC3-242 A.T.	1½	1 rich	1 rich
2-bbl. WWC3-244 M.T.	1½	1 rich	1 rich

ENGINE IDLE SPEED
Manual Trans. 500 rpm* with headlights on high beam
Auto. Trans. 500 rpm* in NEUTRAL with headlights on high beam
Air Cond. 500 rpm* in DRIVE with unit turned ON with headlights on high beam
* 300K, 700 rpm

VALVE CLEARANCES
(engine cold, not running)
300K: Intake .017"; exhaust .028"
Others: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	17	16

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

★ **Oil Filter** (under car) .... Replace
Add extra quart oil

★ **Battery** .... Check and fill
Caution: Do not ground positive terminal

★ **Power Steering Reservoir** .... PS
Fill to base of filler neck if cold, halfway when hot

★ **Oil Fill Cap** .... Wash and oil 30 MO
Service more frequently under dusty conditions. With closed PCV system, sealed cap, no service

Crankcase Dipstick .... Check level

★ **Carburetor Choke Shaft** .... Clean CC

Air Cleaner Element .... Service
★ Dry type .... Clean
2Y Dry type .... Replace

★ **Manual Steering Gear** (plug) .... MP
Above -30°, 80; below -30°, 75

★ **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir

Front Suspension and Steering Linkage .... (8 plugs) BJ
★ Inspect seal; if damaged, replacement is necessary. After replacing seal, relubricate
32 Relubricate using special adapter. Fill until grease flows from upper ball joint bleed holes or lower joint seal lower lip. Do not rupture seals. Reinstall plug

32 **Torque Shaft** .... LM
Disassemble, clean and repack both ends

TRANSMISSION, Manual .... AF
★ Maintain level to fill plug hole
Severe service, check level every 4,000 miles or 2 months
CAPACITY 3-speed, 3½ pints; 4-speed, 6½ pints
DRAIN and REFILL
Regular drain not recommended
Severe service, drain every 32,000 miles; extremely severe service, every 10,000 miles

C **Gearshift Lever** .... MO
Remove rubber boot from floor panel, apply lubricant to pivot points and yoke selector mechanism

Universal Joints .... UJ
Front, 2 ounces, grade 2; rear, grade 0
★ Inspect for leaks, replace seals if necessary
Severe service, inspect every 4,000 miles or 2 months
32 Repack if used under severe service

DIFFERENTIAL .... MP*
Above -10°, 90; below -10°, 80; below -30°, 75
★ Maintain level ½ inch below fill plug hole (axle hoist); bottom of fill plug hole (frame hoist)
Severe service, check level every 4,000 miles or 2 months
CAPACITY 4 pints
DRAIN and REFILL
C Normal service 32 Severe service
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK .... Gallons

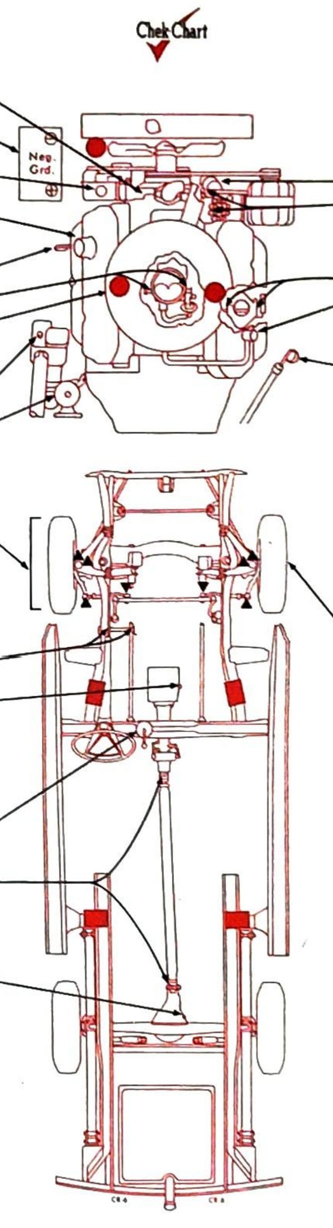
Town & Country	21
All other models	23

TIRES .... Pressure

	Front	Rear
8.00-14 Newport	24	24
8.50-14 Newport, Town & Country	24	24*
8.00-14 300, 300K	24	22
8.50-14 300, 300K	24	22
8.50-14 New Yorker	24	22
9.00-14 New Yorker, Town & Country	24	24*

* Town and Country, fully loaded, 28

5 Rotate tires, Method A, then balance wheels



■ Position for lift adapter
▲ Prepacked bearing
● Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	30	10W-30
Above -10°	10W	10W-30
Below -10°	5W	5W-20

CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Fuel Filter .... Replace 16

Distributor Shaft (oil cup) .... MO ★
300 (grease cup) .... CL ★
1 turn at each lubrication period
Wick under rotor .... Sparingly MO ★

Manifold Heat Control Valve Shaft .... MH ★

PCV System Valve .... Check ★
Replace valve if clogged; also clean hose and carburetor, if passages are clogged
Service more frequently under severe service

TRANSMISSION, Automatic .. AF
Check level, engine idling and thoroughly warm, NEUTRAL position .... ★
Severe service, check level every 4,000 miles or 2 months
To overcome difficult starting below -10°, replace 1½ pints fluid with kerosine. Do not dilute more than once during any one season

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	9

DRAIN and REFILL
Remove 1 converter plug and parking sprag cavity plug; also remove oil pan
Regular drain not recommended
Severe service, drain every 32,000 miles; extremely severe service, every 10,000 miles
Replace transmission filter at time of drain

Front Wheel Bearings .... WB
Inspect 20
Severe service, inspect every 10,000 miles
Repack C
Tighten front wheel adjusting nut to 90 in. lb., position lock nut over adjusting nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key. Final adjustment should be 0 (no preload) to .003" end play

BRAKE ADJUSTMENT
Brakes are self-adjusting. No adjustment normally required
Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS
★ Twice yearly
5 Every 5,000 miles
16 Every 16,000 miles or yearly
20 Every 20,000 miles or 2 years
32 Every 32,000 miles
2Y Every 2 years or 32,000 miles
C Conditional service
Lubricate gearshift lever as required
Drain and refill differential for below -10° requirements
Repack front wheel bearings as required or at brake overhaul

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF	Automatic Transmission Fluid, Type A, Suffix A	HB	Hydraulic Brake Fluid, Heavy-Duty MoPar Hi-Temp Brake Fluid	MP*	Multi-Purpose Gear Lubricant Meeting Specification MIL-L-2105B
BJ	Suspension Lubricant MoPar Part No. 2298947	LM	Lithium Grease	PS	Power Steering Fluid MoPar Part No. 2084329
CC	Carburetor Cleaner	MH	Manifold Heat Control Valve Solvent MoPar Part No. 1879318	UJ	Universal Joint Grease
CL	Chassis Lubricant	MO	Motor Oil	WB	Wheel Bearing Grease

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

DODGE DART 6

1960-61 All Models

1960

1961

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1960	24H	50
	27H	70
1961	24H	50
	27H	70

COMPRESSION PRESSURE

(psi at cranking speed, throttle open)	min.	max.
All	130	160*

* Maximum variation between cylinders, 20 psi

SPARK PLUGS

Champion N-12Y
Gap: .035"
Torque: 1960, 30 ft. lb.; 1961, 30-32 ft. lb.

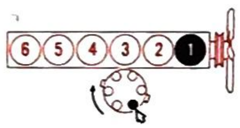
IGNITION POINTS

Chrysler
Gap: .017"-.023"
Dwell angle: 1960, 36°-42°; 1961, 40°-45°

CONDENSER

Chrysler
Capacity: .25-.285 mfd

Cylinder Numbering Sequence

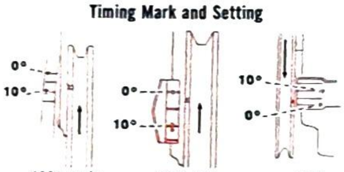


Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed to 475-500 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 2½°

FUEL PUMP

Carter model M-2996S
Pressure: 1960, 3½-5 lb.; 1961, 4-5 lb.; at idle rpm
Volume: 1 quart per minute at 500 rpm

CARBURETOR ADJUSTMENT

BALL & BALL	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
1-bbl. BBS	1	index*	index*

* Choke should not be field calibrated. Replace unit if defective

ENGINE IDLE SPEED

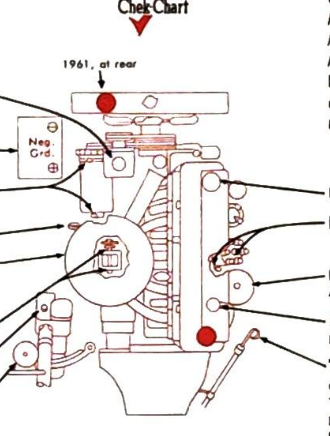
Manual Trans. 550 rpm with headlights on high beam
Auto. Trans. 500 rpm in NEUTRAL with headlights on high beam
Air Cond. 550 rpm in NEUTRAL with unit turned ON and headlights on high beam

VALVE CLEARANCES

(engine hot and running)
Intake .010"; exhaust .020"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart



COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	14	13

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

★ **Power Steering Reservoir** .... PS
Fill to level mark on gage. Without gage, to base of filler neck when cold, halfway when hot

★ **Battery** .... Test and fill
Caution: Do not ground positive terminal

★ **Generator** (2 oil cups) .... MO
Alternator, right side, no lubrication

Crankcase Dipstick .... Check level

Air Cleaner Element .... Service
5 Dry type .... Clean
15 Dry type .... Replace

★ **Manifold Heat Control Valve Shaft** .... MH

★ **Manual Steering Gear** (plug) .... MP
Above −10°, 90; below −10°, 80; below −30°, 75

★ **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir

CRANKCASE .... "MS" MO

Above +32°	30	20W-40, 10W-30
Above +10°	20W	10W-30
Above −10°	10W	10W-30, 5W-20
Below −10°	5W	5W-20

CAPACITY 4 quarts

DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap .... Wash and oil 30 MO ★

Distributor Shaft (oil cup) .... MO ★
Wick under rotor .... Sparingly MO 10

Oil Filter .... Replace 4
Add extra quart oil

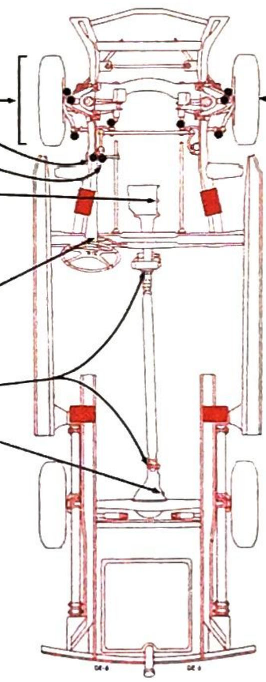
PCV System Valve .... CC 10
Disassemble and clean

TRANSMISSION, Automatic .. AF

Check level, engine idling, NEUTRAL position .... ★
To overcome difficult starting below −10°, replace ¾ quart fluid with kerosine

CAPACITY, quarts	Initial Refill	Total Refill
All models	4	7

DRAIN and REFILL .... Y
Remove 1 converter plug and transmission plug
Drain more frequently under severe service



★ **Front Suspension and Steering Linkage** .... (8 fittings) CL

★ **Gearshift Rod Shift Levers** CL

★ **Torque Shaft** CL

TRANSMISSION, Manual ..... AF

★ Maintain level to fill plug hole
CAPACITY 5 pints; refill approx., 4 pints
20 **DRAIN and REFILL**

10 **Gearshift Lever** .... WG
Remove rubber boot below steering wheel, pivot-pin assembly, then lever. Coat sparingly ball end of lever, pivot-pin hole and surrounding area. Reassemble

20 **Universal Joints** .... Repack UJ
Use only 2 ounces in front joint

DIFFERENTIAL .... MP*

Above −10°, 90; below −10°, 80; below −30°, 75
★ Maintain level to ½ inch below fill plug hole
CAPACITY 3½ pints
20 **DRAIN and REFILL**
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK .... Gallons

Suburban	21
All other models	20

TIRES .... Pressure

	Front	Rear
7.00-14	22	22
7.50-14	22	22
8.00-14	22	22*
8.50-14	22	24◆

* Station wagon, 24; with heavy load, 28
◆ With heavy load, 28

6 Rotate tires, Method A, then balance wheels

Front Wheel Bearings .... Check WB 10
Clean and repack if necessary
Tighten front wheel adjusting nut to 90 in. lb., position lock nut over adjusting nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Two adjustment cams are provided on each backing plate. To tighten, turn both front brake cams and rear brake front cam in direction of forward wheel rotation. Tighten rear brake rear cam in opposite direction
Adjust the brakes as follows:
1. Turn one adjustment cam until heavy drag is felt when wheel is turned
2. Slowly back off cam until no drag is felt
3. Repeat steps 1 and 2 for other adjustment cam
4. Repeat steps 1, 2 and 3 for each brake

Bleeding sequence: RR, LR, RF, LF When bleeding front brakes, bleed lower cylinder first

Position for lift adapter
Lubrication fitting
Cooling system drain

KEY TO INTERVALS

★ Every 2,000 miles
4 Every 4,000 miles
5 Every 5,000 miles
6 Every 6,000 miles
10 Every 10,000 miles
15 Every 15,000 miles
20 Every 20,000 miles
Y Yearly or every 10,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CC Carburetor Cleaner
CL Chassis Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty — MoPar Hi-Temp Brake Fluid
MH Manifold Heat Control Valve Solvent — MoPar Part No. 1879318
MO Motor Oil
MP* Multi-Purpose Gear Lubricant — Meeting Specification MIL-L-2105B
PS Power Steering Fluid — MoPar Part No. 2084329
UJ Universal Joint Grease
WB Wheel Bearing Grease
WG White Waterproof Grease

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

DODGE, DODGE DART V-8

1960-61 All Models

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1960 Dart	24H	50
1960 early with D-500 eng.	24H	60
1960 late -61 with D-500 eng.	24H	59
	27H	70
1961	24H	50
	27H	70

COMPRESSION PRESSURE

(psi at cranking speed, throttle open)	min.	max.
318 engine	135	165*
1961 361 engine	135	165*
Others	150	180**

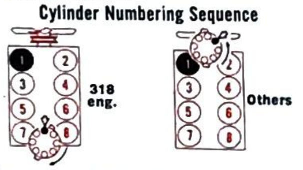
* Maximum variation between cylinders, 20 psi
** Maximum variation between cylinders, 25 psi

SPARK PLUGS
Champion: With (2) 4-bbl. carbs., J-9Y; others, J-12Y
Gap: .035"
Torque: 1960, 30 ft. lb.; 1961, 30-32 ft. lb.

IGNITION POINTS
Autolite: All 1960, 1961 ex. 318 eng., Chrysler
Gap: .014"-.019"
Dwell angle: Single points, 27°-32°; dual points, total dwell, 34°-40°

CONDENSER
Autolite: All 1960, 1961 ex. 318 eng., Chrysler
Capacity: .25-.285 mfd

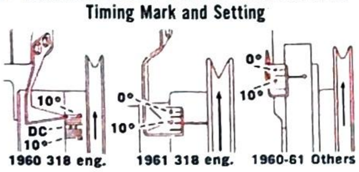
Cylinder Numbering Sequence



Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed to 475-500 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 318 engine with Manual Trans. 5°; 1960 383 engine with (2) 4-bbl. carburetors and all 1961 383 engine, 7½°; others, 10°

FUEL PUMP
Carter model: 318 engine, M-2608S; with Air Cond., M-2611S; 361, 383 engines, M-2769S
Pressure: M-2769S, 3½ lb.; others, 5-7 lb.; at idle rpm
Volume: 1 quart per minute at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
BALL & BALL			
2-bbl. BBD	1	index	index
CARTER			
4-bbl. AFB-2903S	1½	1 rich	1 rich
4-bbl. AFB-2968S, -3133S, -3152S	1½	2 rich	2 rich
Other AFB	1½	index	index
HOLLEY			
4-bbl. R models	1	1 rich	1 rich
STROMBERG			
2-bbl. WWC3-188,-188A	½-⅝	1 rich	1 rich
2-bbl. WW15	1¼	index	index

ENGINE IDLE SPEED
Manual Trans. 500* rpm, headlights on high beam
Auto. Trans. 500* rpm, in NEUTRAL with headlights on high beam
Air Cond. 550*▲ rpm, in NEUTRAL with unit turned ON and headlights on high beam
* With (2) 4-bbl. carburetors, 750 rpm
▲ With Holley carb., 500 rpm, unit turned ON

VALVE CLEARANCES
(engine hot and running)
318 engine, 1960: Intake .010"; exhaust .018"
1961: Intake .013"; exhaust .021"
361, 383 engines: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
Dodge, Dart with D500 engine	17	16
All other models	21	20

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

[4] **Oil Filter** (under car) .... Replace
Add extra quart oil
318-cu. in. engine, right side, at rear

[★] **Battery** .... Test and fill
Caution: Do not ground positive terminal

[★] **Power Steering Reservoir** .... PS
Fill to level mark on gage. Without gage, to base of filler neck when cold, halfway when hot

Crankcase Dipstick .... Check level
318-cu. in. engine, right side, at front

[★] **Oil Fill Cap** .... Wash and oil 30 MO

Air Cleaner Element .... Service
[5] Dry type .... Clean
[15] Dry type .... Replace

[★] **Manual Steering Gear** (plug) .... MP
Above -10°, 90; below -10°, 80; below -30°, 75

[★] **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir

[★] **Front Suspension and Steering Linkage** .... (8 fittings) CL

[★] **Gearshift Rod Shift Levers** CL
[★] **Torque Shaft** CL

TRANSMISSION, Manual ..... AF
[★] Maintain level to fill plug hole
CAPACITY Polara 1961, 4¼ pints, refill approx. 3½ pints, 1960 3½ pints; Matador, Seneca, Pioneer, Phoenix 5 pints, refill approx. 4 pints, except early 1960 models, 2¾ pints
[20] DRAIN and REFILL

[10] **Gearshift Lever** .... WG
Remove rubber boot below steering wheel, pivot-pin assembly, then lever. Coat sparingly ball end of lever, pivot-pin hole and surrounding area. Reassemble

[20] **Universal Joints** .... Repack UJ
Use only 2 ounces in front joint

DIFFERENTIAL .... MP*
Above -10°, 90; below -10°, 80; below -30°, 75
[★] Maintain level to ½ inch below fill plug hole
CAPACITY 4 pints
[20] DRAIN and REFILL
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK .... Gallons

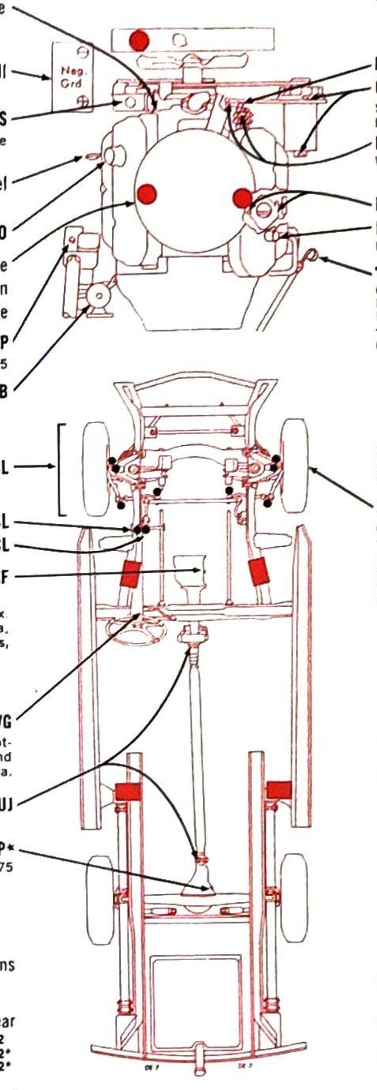
Sierra, Suburban	21
All other models	20

TIRES .... Pressure

	Front	Rear
7.50-14	24	22
8.00-14	24	22*
8.50-14	24	22*

* Station wagon, 24; rear, with heavy load, 28
For Captive-Air tires inner chamber pressure must be 4 to 6 pounds higher than outer chamber pressure shown

[6] Rotate tires, Method A, then balance wheels
Captive-Air tires, Method C



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	30	20W-40, 10W-30
Above +10°	20W	10W-30
Above -10°	10W	10W-30, 5W-20
Below -10°	5W	5W-20

CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Fuel Filter Element .... Replace [23]

Generator (2 oil cups) .... MO [★]
Seneca, Pioneer, Phoenix with air conditioning, left side. Alternator, no lubrication

Distributor Shaft (oil cup) .... MO [★]
With 318-cu. in. engine, center rear
Wick under rotor .... Sparingly MO [10]

Manifold Heat Control Valve Shaft .... MH [★]

PCV System Valve .... CC [10]
Disassemble and clean

TRANSMISSION, Automatic .. AF
Check level, engine idling and thoroughly warm, NEUTRAL position .... [★]
PowerFlite: To overcome difficult starting below -10°, replace 1 quart fluid with kerosine

CAPACITY, quarts	Initial Refill	Total Refill
PowerFlite: Seneca, Pioneer, Phoenix	5	10
Matador	5	11½
TorqueFlite: Seneca, Pioneer, Phoenix	5	9½
Matador, Polara	5	11

DRAIN and REFILL .... [Y]
Remove 1 converter plug and disconnect fill pipe
Drain more frequently under severe service

Front Wheel Bearings .... Check WB [10]
Clean and repack if necessary
Tighten front wheel adjusting nut to 90 in. lb., position lock nut over adjusting nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key

BRAKE ADJUSTMENT
With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Two adjustment cams are provided on each backing plate. To tighten, turn both front brake cams and rear brake front cam in direction of forward wheel rotation. Tighten rear brake rear cam in opposite direction
Adjust the brakes as follows:
1. Turn one adjustment cam until heavy drag is felt when wheel is turned
2. Slowly back off cam until no drag is felt
3. Repeat steps 1 and 2 for other cam
4. Repeat steps 1, 2 and 3 for each brake

Bleeding sequence: RR, LR, RF, LF When bleeding front brakes, bleed lower cylinder first

KEY TO INTERVALS
[★] Every 2,000 miles
[4] Every 4,000 miles
[5] Every 5,000 miles
[6] Every 6,000 miles
[10] Every 10,000 miles
[15] Every 15,000 miles
[20] Every 20,000 miles
[23] Every 23,000 miles
[Y] Yearly or every 10,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A, Suffix A
- **CC** Carburetor Cleaner
- **CL** Chassis Lubricant
- **HB** Hydraulic Brake Fluid, Heavy-Duty — MoPar Hi-Temp Brake Fluid
- **MH** Manifold Heat Control Valve Solvent — MoPar Part No. 1879318
- **MO** Motor Oil
- **MP*** Multi-Purpose Gear Lubricant — Meeting Specification MIL-L-2105B
- **PS** Power Steering Fluid — MoPar Part No. 2084329
- **UJ** Universal Joint Grease
- **WB** Wheel Bearing Grease
- **WG** White Waterproof Grease

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

DODGE LANCER

1961 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24H	50
	27H	70

COMPRESSION PRESSURE

(psi at cranking speed, throttle open)	min.	max.
All	130	160*

* Maximum variation between cylinders, 20 psi

SPARK PLUGS

Champion N-12Y
Gap: .035"
Torque: 30 ft. lb.

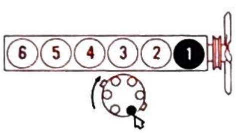
IGNITION POINTS

Chrysler
Gap: .017"-.023"
Dwell angle: 40°-45°

CONDENSER

Chrysler
Capacity: .25-.285 mfd

Cylinder Numbering Sequence

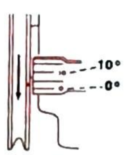


Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed to 550 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 2½°

FUEL PUMP

Carter model M-2996S
Pressure: 3½-5 lb. at 500 rpm
Volume: 1 quart per minute at 500 rpm

CARBURETOR ADJUSTMENT

BALL & BALL	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
1-bbl. BBS	1	index*	index*

* Choke should not be field calibrated. Replace unit if defective

ENGINE IDLE SPEED

Manual Trans. 550 rpm with headlights on high beam
Auto. Trans. 500 rpm in NEUTRAL with headlights on high beam

VALVE CLEARANCES

(engine hot and running)
Intake .010"; exhaust .020"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	12	11

Cooling system pressure, 14 pounds

[★] **Power Steering Reservoir** .... PS
Fill to level mark on gage. Without gage, to base of filler neck when cold, halfway when hot

[★] **Battery** .... Test and fill
Caution: Do not ground positive terminal

Crankcase Dipstick .... Check level

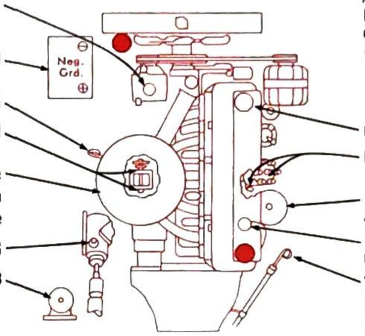
[★] **Manifold Heat Control Valve Shaft** .... MH

Air Cleaner Element .... Service
[5] Dry type .... Clean
[15] Dry type .... Replace

[★] **Manual Steering Gear** (plug) .... SG

[★] **Brake Master Cylinder** (plug) .... HB
Fill to ¼ inch below top of fill hole

Chek-Chart



CRANKCASE .... "MS" MO

Above +32°	30	20W-40, 10W-30
Above +10°	20W	10W-30
Above −10°	10W	10W-30, 5W-20
Below −10°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap .... Wash and oil 30 MO [★]

Distributor Shaft (oil cup) .... MO [★]
Wick under rotor .... Sparingly MO [10]

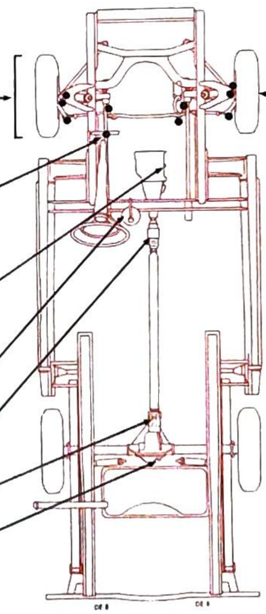
Oil Filter .... Replace [4]
Add extra quart oil

PCV System Valve .... CC [10]
Disassemble and clean

TRANSMISSION, Automatic .. AF
Check level, engine idling and thoroughly warm, NEUTRAL position .... [★]
To overcome difficult starting below −10°, replace ¾ quart fluid with kerosine

CAPACITY, quarts	Initial Refill	Total Refill
All models	4	7

DRAIN and REFILL .... [10]
Remove 1 converter plug and transmission plug
Drain more frequently under severe service



[★] **Front Suspension and Steering Linkage** .... (9 fittings) CL

Front Wheel Bearings .... Check WB [10]
Clean and repack if necessary
Tighten front wheel adjusting nut to 70 in. lb., position lock nut over adjusting nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key

[★] **Torque Shaft** CL

TRANSMISSION, Manual ..... AF
[★] Maintain level to fill plug hole
CAPACITY 5 pints; refill approx., 4 pints
[20] DRAIN and REFILL

[10] **Gearshift Lever** .... MO
Remove rubber boot from floor panel, apply lubricant to pivot points and yoke selector mechanism

[20] **Universal Joint** .... Repack, 2 oz. only UJ

[20] **Universal Joint** .... Repack UJ

DIFFERENTIAL .... MP
Above −10°, 90; below −10°, 80; below −30°, 75
[★] Maintain level to fill plug hole
CAPACITY 2 pints
[20] DRAIN and REFILL

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated

Adjust the brakes as follows:

1. Using a suitable tool inserted into rear adjustment hole in backing plate, expand shoes until light drag is felt when rotating wheel
2. Back off adjustment 10-12 notches or until all drag is eliminated
3. Repeat steps 1 and 2 for each brake

Bleeding sequence: RR, LR, RF, LF

GAS TANK .... Gallons
All models 13

TIRES .... Pressure Front Rear

	Front	Rear
6.50-13	24	24*

* Suburban: 3-seat, 2-seat fully loaded, 28

[6] Rotate tires, Method A, then balance wheels

■ Position for lift adapter
• Lubrication fitting
● Cooling system drain

KEY TO INTERVALS

[★] Every 2,000 miles
[4] Every 4,000 miles
[5] Every 5,000 miles
[6] Every 6,000 miles
[10] Every 10,000 miles
[15] Every 15,000 miles
[20] Every 20,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF	Automatic Transmission Fluid, Type A, Suffix A	MH	Manifold Heat Control Valve Solvent MoPar Part No. 1879318
CC	Carburetor Cleaner	MO	Motor Oil
CL	Chassis Lubricant	MP	Multi-Purpose Gear Lubricant Meeting Specification MIL-L-2105B
HB	Hydraulic Brake Fluid, Heavy-Duty MoPar Hi-Temp Brake Fluid	PS	Power Steering Fluid MoPar Part No. 2084329
SG	Steering Gear Lubricant	UJ	Universal Joint Grease
WB	Wheel Bearing Grease		

1962

1963

HOOD RELEASE: Front

DODGE 6

1962 Dart; 1963 All Models Except Dart

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24H	48, 59

COMPRESSION PRESSURE

(psi at cranking speed, throttle open)	min.	max.
All	110	140*

* Maximum variation between cylinders, 20 psi

SPARK PLUGS

Champion: 1962, N-12Y; 1963, N-14Y*
Gap: .035"
Torque: 30-32 ft. lb.
* 1963, gasket not required

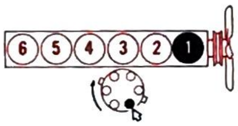
IGNITION POINTS

Chrysler
Gap: .017"-.023"
Dwell angle: 40°-45°

CONDENSER

Chrysler
Capacity: .25-.285 mfd

Cylinder Numbering Sequence

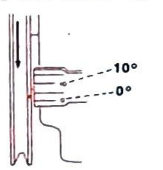


Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed to 550 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 2½°

FUEL PUMP

Carter model M-2996S
Pressure: 3½-5 lb. at idle rpm
Volume: 1 quart per minute at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
BALL & BALL			
1-bbl. BBS	1	2 rich* **	2 rich* **
HOLLEY			
1-bbl. R	1	index*†	index*†
STROMBERG			
1-bbl. WA	¾-1	—	2 rich*

* Choke should not be field calibrated. Replace unit if defective
** 1963, 4 rich
† 1963, 2 rich

ENGINE IDLE SPEED

Manual Trans. 550 rpm with headlights on high beam
Auto. Trans. 550 rpm in NEUTRAL with headlights on high beam
Air Cond. 550 rpm in NEUTRAL with unit turned ON and headlights on high beam

VALVE CLEARANCES

(engine hot and running)
Intake .010"; exhaust .020"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	13	12

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

[★] **Power Steering Reservoir** .... PS
Fill to base of filler neck if cold, halfway when hot

[OC] **Battery** .... Test and fill
Caution: Do not ground positive terminal

[16] **Fuel Filter** .... Replace

Crankcase Dipstick .... Check level

Air Cleaner Element .... Service
[8] Dry type .... Clean
[32] Dry type .... Replace
Service more frequently under severe service

[TY] **Carburetor Choke Piston** CC
Remove air cleaner to service. Apply cleaner while moving choke valve back and forth

[★] **Manifold Heat Control Valve Shaft** .... MH
Service more frequently under severe service

[★] **Manual Steering Gear** (plug) .... SG, LM

[★] **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir

[32] **Automatic Trans. Filter** (under car) .... Replace
Replace at time of transmission drain

Front Suspension .... (4 plugs) BJ
[★] Inspect seal, if damaged, replacement is necessary. After replacing seal or when lubricating, remove plug, use special gun or adapter. Install plug
[32] Relubricate using special adapter. Fill until grease flows from upper ball joint bleed holes or lower joint seal lower lip. Do not rupture seals. Reinstall plug

[★] **Steering Linkage** .... (4 sealed bearings)
Inspect seal, replace if damaged or worn

[32] **Torque Shaft** .... LM
Disassemble, clean and repack at both ends

TRANSMISSION, Manual .... AF
[★] Maintain level to fill plug hole
CAPACITY 5 pints
DRAIN and REFILL
1963 Not recommended for normal service
[32] 1962; 1963 Severe service

Universal Joints .... UJ
Front, 2 ounces, grade 2; rear, grade 0
[TY] 1963 .... Inspect
Inspect for leaks, replace seals if necessary
[32] 1963, repack if used under severe service
[32] 1962, repack under all service conditions

DIFFERENTIAL .... MP*
Above −10°, 90; below −10°, 80; below −30°, 75
[★] Maintain level to ½ inch below fill plug hole
CAPACITY 4 pints
DRAIN and REFILL
[C] 1963 Normal service
[32] 1962; 1963 Severe service
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK .... Gallons

Station wagon	21½
All other models	20

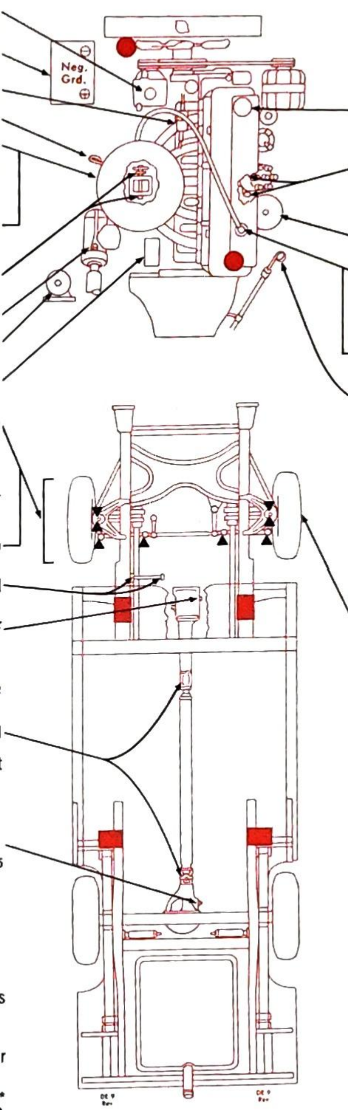
TIRES .... Pressure

	Front	Rear
6.50-14	24	24
6.70-15	24	24*
7.00-14, 1962	24	24**
7.00-14, 1963	24	22◆
7.50-14	24	22◆

* Station wagon with heavy load, 28
** Station wagon, 26
◆ Station wagon, 26; with heavy load, 28

Rotate tires, Method A, then balance wheels
[5] 1963 [8] 1962

Chek-Chart



Position for lift adapter
▲ Prepacked bearing
● Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	30	20W-40, 10W-30
Above +10°	20W	10W-30
Above −10°	10W	10W-30, 5W-20
Below −10°	5W*	5W-20

* 1963, 5W-20
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap .... Wash and oil 30 MO
1962 [8] 1963 [OC]
Service more frequently under severe service

Distributor Shaft (oil cup) .... MO [★]
Wick under rotor .... Sparingly MO
1962 [12] 1963 [TY]
Service more frequently under severe service

Oil Filter .... Replace [★]
Add extra quart oil

PCV System Valve CC
Remove and clean valve; also hose and carburetor, if passages are clogged
1962 [8] 1963 [TY]
Service more frequently under severe service

Crankcase Breather Outlet
Element 1962 .... Wash and oil 30 MO [8]

TRANSMISSION, Automatic .... AF
Check level, engine idling, NEUTRAL position ... [★]
To overcome difficult starting below −10°, replace 1½ pints fluid with kerosine. Do not dilute more than once during any one season

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	7

DRAIN and REFILL
Remove 1 converter plug, transmission plug and parking sprag cavity plug; also, remove oil pan on 1963 without transmission plug
1963 Regular drain not recommended
Severe service drain every 32,000 miles; extremely severe service every 10,000 miles
Replace transmission filter at time of drain
1962 .... [32]

Front Wheel Bearings .... WB
Inspect .... [16]
1963, clean and repack .... [C]
1962, clean and repack .... [32]
Tighten front wheel adjusting nut to 90 in. lb., position lock nut over adjusting nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key
1963, final adjustment should be 0, no preload to .003" end play

BRAKE ADJUSTMENT

Brakes are self-adjusting. No adjustment normally required
Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

[★] 1963, Twice yearly
1962, Every 4,000 miles
[5] Every 5,000 miles
[8] Every 8,000 miles
[12] Every 12,000 miles
[16] Every 16,000 miles
[32] Every 32,000 miles
[OC] Every crankcase oil change
[TY] Twice yearly
[C] Conditional service
1963, drain and refill differential for below −10° requirements
1963, clean and repack front wheel bearings if wheel is removed for service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

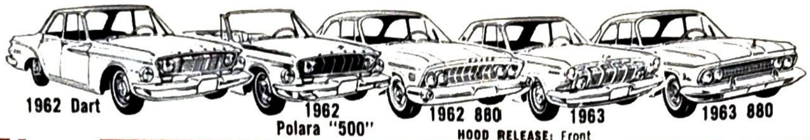
KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant
MoPar Part No. 2298947
CC Carburetor Cleaner
HB Hydraulic Brake Fluid, Heavy-Duty
MoPar Hi-Temp Brake Fluid
LM Lithium Grease
MH Manifold Heat Control Valve Solvent
MoPar Part No. 1879318
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
Meeting Specification MIL-L-2105B
PS Power Steering Fluid
MoPar Part No. 2084329
SG Steering Gear Lubricant
UJ Universal Joint Grease
WB Wheel Bearing Grease

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

DODGE V-8

1962-63 All Models



HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

(Following data does not include racing-type engines)

BATTERY

	AABM Group No.	Amp. Hrs.
318 engine	24H	48
361, 383 engines	24H	59

COMPRESSION PRESSURE

(psi at cranking speed, throttle open)

	min.	max.
318 eng.	120	150*
361 eng.	125	155*
383 eng. Automatic Trans.	130	165**
383 eng. Manual Trans.	150	180**

* Maximum variation between cylinders, 20 psi
** Maximum variation between cylinders, 25 psi

SPARK PLUGS

Champion: 383 eng. with 4-bbl. carb., J-9Y; others, J-12Y
Gap: .035" Torque: 30-32 ft. lb.

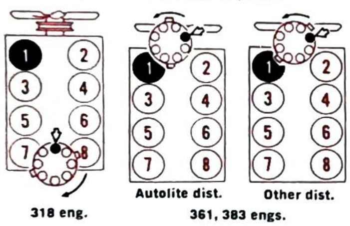
IGNITION POINTS

Autolite, Chrysler, Prestolite
Gap: Autolite, Chrysler, .014"-.019"; Prestolite, .015"-.018"
Dwell angle: Single points, Autolite, Chrysler, 28°-33°; Prestolite, 26°-32°; Dual points, each set, 27°-32°, total dwell, 34°-40°

CONDENSER

Autolite, Chrysler, Prestolite
Capacity: .25-.285 mfd

Cylinder Numbering Sequence

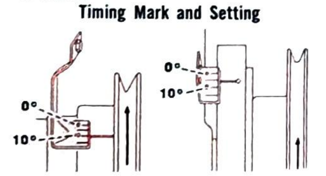


Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed to 475-500 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 1963, 361, 383 engs. 10°; others, Manual Trans. 5°, Auto. Trans. 10°

FUEL PUMP

Carter model: 318 eng., M-2608S; with Air Cond., M-2611S; 361, 383 engs., M-2769S
Pressure: M-2769S, 3½-5 lb.; others, 5-7 lb.; at idle rpm
Volume: 1 quart per minute at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
BALL & BALL			
2-bbl. BBD	1	index*	index*
CARTER			
4-bbl. AFB	1½	2 rich*	2 rich* **
STROMBERG			
2-bbl. WWC3	1¼	index*	index*

* Choke should not be field calibrated. Replace unit if defective ** 1963, index

ENGINE IDLE SPEED

Manual Trans. 500 rpm, headlights on high beam
Auto. Trans. 500 rpm, in NEUTRAL with headlights on high beam
Air Cond. 500 rpm, in NEUTRAL with unit turned ON and headlights on high beam

VALVE CLEARANCES

(engine hot and running)
318 eng.: Intake .013"; exhaust .021"
361, 383 engs.: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
361-, 383-cu. in. engines	17	16
318-cu. in. engine	21	20

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

[OC] **Battery** ....Test and fill
Caution: Do not ground positive terminal

[★] **Power Steering Reservoir**..........PS
Fill to base of filler neck if cold, halfway when hot

Oil Fill Cap..............Wash and oil 30 MO
[OC] 1963 [8] 1962

[32] **Automatic Trans. Filter** (under car).....Replace
Replace at time of transmission drain

Air Cleaner Element...............Service
[8] Dry type ....Clean
[32] Dry type ....Replace
Service more frequently under severe service

[TY] **Carburetor Choke Piston**...............CC
Remove air cleaner to service. Apply cleaner while moving choke valve back and forth

[★] **Manual Steering Gear** (plug)..........SG, LM
880 ....MP
Above -30°, 80; below -30°, 75

[★] **Brake Master Cylinder** (cover)..........HB
Fill to ¼ inch below top of reservoir

[★] **Distributor Shaft** (oil cup)..............MO
383- and 361-cu. in. engines, right side at front
Wick under rotor..........Sparingly MO
[TY] 1963 [12] 1962
Service more frequently under severe service

Front Suspension..............(4 plugs) BJ
[★] Inspect seal, if damaged, replacement is necessary. After replacing seal or when relubricating, remove plug, use special gun or proper adapter. Install plug
[32] Relubricate using special adapter. Fill until grease flows from upper ball joint bleed holes or lower joint seal lower lip. Do not rupture seals. Reinstall plug

[★] **Steering Linkage**.........(4 sealed bearings)
Inspect seal, replace if damaged or worn

[32] **Torque Shaft**.............................LM
Disassemble, clean and repack both ends

TRANSMISSION, Manual

[★] Maintain level to fill plug hole
3-speed ....AF
CAPACITY 5 pints; except 880, 4½ pints, refill approx. 3½ pints
4-speed ....MP, AF
Above +32°, 80MP, below +32°, AF
90MP may be used if 80 is not available
CAPACITY 3 pints
DRAIN and REFILL
1963 Not recommended for normal service
[32] 1962; 1963 Severe service

[32] **Gearshift Lever** 880 (3-speed, 4-speed)....MO
Remove rubber boot from floor panel, apply lubricant to pivot points and yoke selector mechanism

Universal Joints ....UJ
Front, 2 ounces, grade 2; rear, grade 0
[TY] 1963 ....Inspect
Inspect for leaks, replace seals if necessary
[32] 1963, repack if used under severe service
[32] 1962, repack under all service conditions

DIFFERENTIAL ....MP*

Above -10°, 90; below -10°, 80; below -30°, 75
[★] Maintain level to ½ inch below fill plug hole
CAPACITY 4 pints
DRAIN and REFILL
[C] 1963 Normal service
[32] 1962; 1963 Severe service
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK.....Gallons

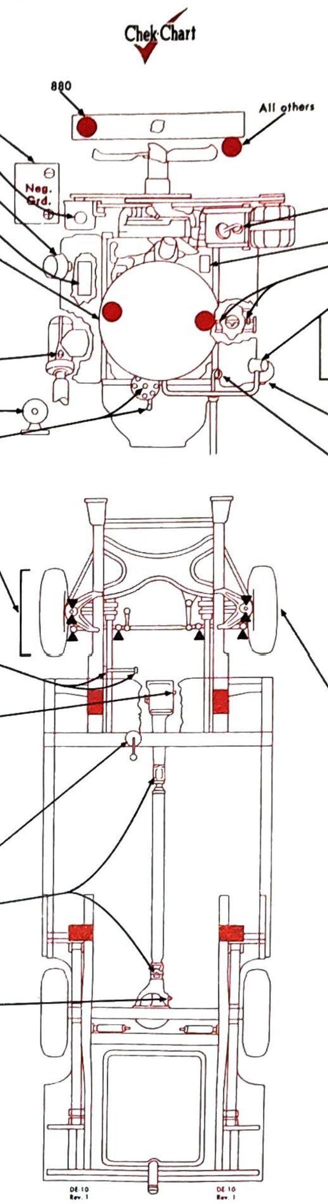
	880	All others
Station wagon	21	21½
All other models	23	20

TIRES..........Pressure

	Front	Rear
7.00-14, 7.50-14, 8.00-14	24	22*
6.70-15	24	24**
8.50-14 880 station wagon	22	24**

* Station wagon, 26; with heavy load, 28
** Station wagon with heavy load, 28

Rotate tires, Method A, then balance wheels
[5] 1963 [8] 1962



CRANKCASE..............."MS" MO

Above +32°	30	20W-40, 10W-30
Above +10°	20W	10W-30
Above -10°	10W	10W-30, 5W-20
Below -10°	5W*	5W-20

* 1963, 5W-20
CAPACITY 880, **5 quarts**; all others, **4 quarts**
DRAIN and REFILL
See Service Instructions, page 4

Crankcase Dipstick...............Check level
383- and 361-cu. in. engines, left side

Fuel Filter ....Replace [16]

Manufold Heat Control Valve Shaft.........MH [★]
Service more frequently under severe service

PCV System Valve.......................CC
Remove and clean valve; also hose and carburetor, if passages are clogged
1962 [8] 1963 [TY]
Service more frequently under severe service

Crankcase Breather Outlet
Element 1962.......Wash and oil 30 MO [8]

Oil Filter (under car)...............Replace [★]
Add extra qt. oil. 383-, 361-cu. in. eng., left side, front

TRANSMISSION, Automatic..AF

Check level, engine idling and thoroughly warm, NEUTRAL position .... [★]
To overcome difficult starting below -10°, replace 1½ pints fluid with kerosine. Do not dilute more than once during any one season

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	9

DRAIN and REFILL
Remove 1 converter plug, transmission plug and parking sprag cavity plug; also, remove oil pan on 1963 without transmission plug
1963 Regular drain not recommended
Severe service drain every 32,000 miles; extremely severe service every 10,000 miles
Replace transmission filter at time of drain
1962 .... [32]

Front Wheel Bearings....................WB
Inspect .... [16]
1962, clean and repack..................... [32]
1963, clean and repack..................... [C]

Tighten front wheel adjusting nut to 90 in. lb., position lock nut over adjusting nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key
1963, final adjustment should be 0, no preload to .003" end play

BRAKE ADJUSTMENT

Brakes are self-adjusting. No adjustment normally required
Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

[★] **1963, Twice yearly**
1962, Every 4,000 miles
[5] **Every 5,000 miles**
[8] **Every 8,000 miles**
[12] **Every 12,000 miles**
[16] **Every 16,000 miles**
[32] **Every 32,000 miles**
[OC] **Every crankcase oil change**
[TY] **Twice yearly**
[C] **Conditional service**
1963, drain and refill differential for below -10° requirements
1963, clean and repack front wheel bearings if wheel is removed for service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant
MoPar Part No. 2298947
CC Carburetor Cleaner
HB Hydraulic Brake Fluid, Heavy-Duty
MoPar Hi-Temp Brake Fluid
LM Lithium Grease
MH Manifold Heat Control Valve Solvent
MoPar Part No. 1879318
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
Meeting Specification MIL-L-2105B
PS Power Steering Fluid
MoPar Part No. 2084329
SG Steering Gear Lubricant
UJ Universal Joint Grease
WB Wheel Bearing Grease

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

DODGE

1962 Lancer; 1963 Dart 6


Lancer


Dart

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	20H	38
	24H	48

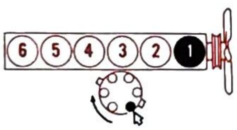
COMPRESSION PRESSURE
(psi at cranking speed, throttle open) min. max.
All 110 140*
* Maximum variation between cylinders, 20 psi

SPARK PLUGS
Champion: 1962, N-12Y; 1963, N-14Y*
Gap: .035"
Torque: 30-32 ft. lb.
* 1963, gasket not required

IGNITION POINTS
Chrysler
Gap: .017"-.023"
Dwell angle: 40°-45°

CONDENSER
Chrysler
Capacity: .25-.285 mfd

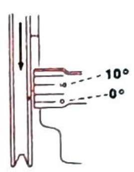
Cylinder Numbering Sequence



Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed to 550 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 2½°

FUEL PUMP
Carter model M-2996S
Pressure: 3½-5 lb. at idle rpm
Volume: 1 quart per minute at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
BALL & BALL 1-bbl. BBS	1	2 rich* **	2 rich* **
HOLLEY 1-bbl. R	1	index*†	index*†
STROMBERG 1-bbl. WA	¾-1	—	2 rich*

* Choke should not be field calibrated. Replace unit if defective
** 1963, 4 rich
† 1963, 2 rich

ENGINE IDLE SPEED
Manual Trans. 550 rpm with headlights on high beam
Auto. Trans. 550 rpm in NEUTRAL with headlights on high beam
Air Cond. 550 rpm in NEUTRAL with unit turned ON and headlights on high beam

VALVE CLEARANCES
(engine hot and running)
Intake .010"; exhaust .020"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
Super 225-cu. in. engine	13	12
All other models ...	12	11

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

[★] **Power Steering Reservoir** .... PS
Fill to base of filler neck when cold, halfway when hot

[OC] **Battery** .... Test and fill
Caution: Do not ground positive terminal

[16] **Fuel Filter** .... Replace

Crankcase Dipstick .... Check level

[★] **Manifold Heat Control Valve Shaft** .... MH
Service more frequently under severe service

Air Cleaner Element .... Service
[8] Dry type .... Clean
[32] Dry type .... Replace
Service more frequently under severe service

[TY] **Carburetor Choke Piston** CC
Remove air cleaner to service. Apply cleaner while moving choke valve back and forth

[★] **Manual Steering Gear** (plug) .... SG, LM

[★] **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir

[32] **Automatic Transmission Filter** .... Replace
Replace at time of transmission drain

Front Suspension .... (4 plugs) BJ
[★] Inspect seal, if damaged, replacement is necessary. After replacing seal or when lubricating, remove plug, use special gun or adapter. Install plug
[32] Relubricate using special adapter. Fill until grease flows from upper ball joint bleed holes or lower joint seal lower lip. Do not rupture seals. Reinstall plug

[★] **Steering Linkage** .... (4 sealed bearings)
Inspect seal, replace if damaged or worn

[32] **Torque Shaft** .... LM
Disassemble, clean and repack both ends

TRANSMISSION, Manual ..... AF
[★] Maintain level to fill plug hole
CAPACITY 5 pints
DRAIN and REFILL
1963 Not recommended for normal service
[32] 1962; 1963 Severe service

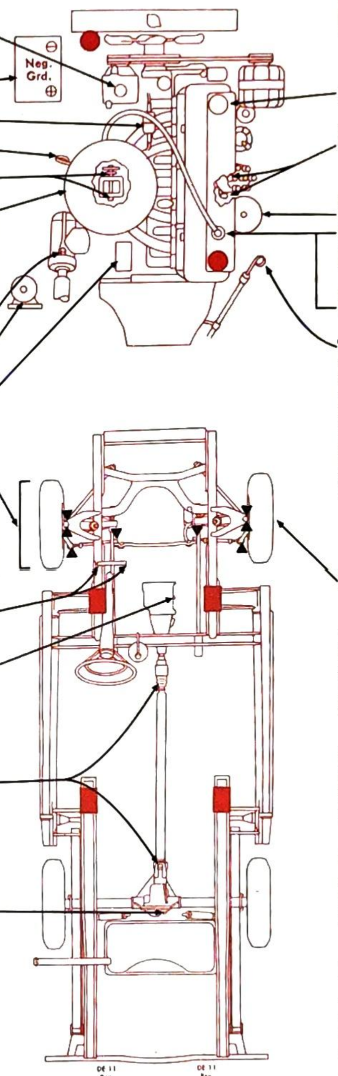
Universal Joints .... UJ
Front, 2 ounces, grade 2; rear, grade 0
[TY] 1963 .... Inspect
Inspect for leaks, replace seals if necessary
[32] 1963, repack if used under severe service
[32] 1962, repack under all service conditions

DIFFERENTIAL .... MP
Above −10°, 90; below −10°, 80; below −30°, 75
[★] Maintain level to fill plug hole
CAPACITY 2 pints
DRAIN and REFILL
[C] 1963 Normal service
[32] 1962; 1963 Severe service

GAS TANK .... Gallons

1963	18
1962	14

TIRES .... Pressure Front Rear
6.50-13 .... 24 24*
* Station wagon, fully loaded, 28
Rotate tires, Method A, then balance wheels
[5] 1963 [8] 1962



Position for lift adapter
▲ Prepacked bearing
Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	30	20W-40, 10W-30
Above +10°	20W	10W-30
Above −10°	10W	10W-30, 5W-20
Below −10°	5W*	5W-20

* 1963, 5W-20
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap .... Wash and oil 30 MO
1962 [8] 1963 [OC]
Service more frequently under severe service

Distributor Shaft (oil cup) .... MO [★]
Wick under rotor .... Sparingly MO
1962 [12] 1963 [TY]
Service more frequently under severe service

Oil Filter .... Replace, add extra quart oil [★]

PCV System Valve CC
Remove and clean valve; also hose and carburetor, if passages are clogged
1962 [8] 1963 [TY]
Service more frequently under severe service

Crankcase Breather Outlet Element 1962 .... Wash and oil 30 MO [8]

TRANSMISSION, Automatic .. AF
Check level, engine idling and thoroughly warm, NEUTRAL position .... [★]
To overcome difficult starting below −10°, replace 1½ pints fluid with kerosine. Do not dilute more than once during any one season
CAPACITY, quarts — Initial Refill — Total Refill
All models 4 7
DRAIN and REFILL
Remove 1 converter plug, transmission plug and parking sprag cavity plug; also, remove oil pan on 1963 without transmission plug
1963 Regular drain not recommended
Severe service drain every 32,000 miles; extremely severe service every 10,000 miles
Replace transmission filter at time of drain
1962 .... [32]

Front Wheel Bearings .... WB
Inspect .... [16]
Clean and repack ..... 1962 [32] 1963 [C]
Tighten front wheel adjusting nut to 70 in. lb. position lock nut over adjusting nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key
1963, final adjustment should be 0, no preload to .003" end play

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
1962, early 1963: Adjust the brakes as follows:
1. Using a suitable tool inserted into rear adjustment hole in backing plate, expand shoes until light drag is felt when rotating wheel
2. Back off adjustment 10-12 notches or until all drag is eliminated
3. Repeat steps 1 and 2 for each brake

Late 1963: Brakes are self-adjusting. Adjustment is not normally required
Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

[★] 1963, Twice yearly
1962, Every 4,000 miles
[5] Every 5,000 miles
[8] Every 8,000 miles
[12] Every 12,000 miles
[16] Every 16,000 miles
[32] Every 32,000 miles
[OC] Every crankcase oil change
[TY] Twice yearly
[C] Conditional service
1963, drain and refill differential for below −10° requirements
1963, clean and repack front wheel bearings if wheel is removed for service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant — MoPar Part No. 2298947
CC Carburetor Cleaner
HB Hydraulic Brake Fluid, Heavy-Duty — MoPar Hi-Temp Brake Fluid
LM Lithium Grease
MH Manifold Heat Control Valve Solvent — MoPar Part No. 1879318
MO Motor Oil
MP Multi-Purpose Gear Lubricant — Meeting Specification MIL-L-2105B
PS Power Steering Fluid — MoPar Part No. 2084329
SG Steering Gear Lubricant
UJ Universal Joint Grease
WB Wheel Bearing Grease

DODGE 6

1964 All Models Except Dart

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24H	48

COMPRESSION PRESSURE
(psi at cranking speed, throttle open) min. max.
All 110 140*
* Maximum variation between cylinders, 20 psi

SPARK PLUGS
Champion N-14Y*
Gap: .035"
Torque: 30-32 ft. lb.
* Gasket not required

IGNITION POINTS
Chrysler
Gap: .017"-.023"
Dwell angle: 40°-50°

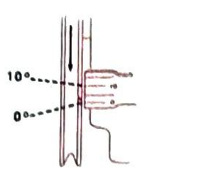
CONDENSER
Chrysler
Capacity: .25-.285 mfd

Cylinder Numbering Sequence

Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed to 550 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 2½°

FUEL PUMP
Carter model MS-3674S
Pressure: 3½-5 lb. at idle rpm
Volume: 1 quart per minute or less at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
BALL & BALL 1-bbl. BBS	1	2 rich*	2 rich*
HOLLEY 1-bbl. R	1	2 rich*	2 rich*

* Choke should not be field calibrated. Replace unit if defective

ENGINE IDLE SPEED
Manual Trans. 550 rpm with headlights on high beam
Auto. Trans. 550 rpm in NEUTRAL with headlights on high beam
Air Cond. 550 rpm in NEUTRAL with unit turned ON and headlights on high beam

VALVE CLEARANCES
(engine hot and running)
Intake .010"; exhaust .020"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	13	12

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

★ **Power Steering Reservoir** .... PS
Fill to base of filler neck when cold, halfway when hot

★ **Battery** .... Check and fill
Caution: Do not ground positive terminal

16 **Fuel Filter** .... Replace

Crankcase Dipstick .... Check level

★ **Manifold Heat Control Valve Shaft** .... MH

Air Cleaner Element .... Service
★ Dry type ....Clean
2Y Dry type ....Replace

★ **Carburetor Choke Shaft** .... Clean CC
In carburetor air horn. Remove air cleaner to service

★ **Manual Steering Gear** (plug) .... SG, LM

★ **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir

Front Suspension and Steering Linkage ....(9 plugs) BJ
★ Inspect seal; if damaged, replacement is necessary. After replacing seal, relubricate
32 Relubricate using special adapter. Fill until grease flows from upper ball joint bleed holes or lower joint seal lower lip. Do not rupture seals. Reinstall plug

32 **Torque Shaft** .... LM
Disassemble, clean and repack both ends

TRANSMISSION, Manual ..... AF
★ Maintain level to fill plug hole
Severe service, check level every 4,000 miles or 2 months
CAPACITY 5 pints
DRAIN and REFILL
Regular drain not recommended
Severe service, drain every 32,000 miles; extremely severe service, every 10,000 miles

C **Gearshift Lever** .... MO
Remove rubber boot from floor panel, apply lubricant to pivot points and yoke selector mechanism

Universal Joints .... UJ
Front, 2 ounces, grade 2; rear, grade 0
★ Inspect for leaks, replace seals if necessary
Severe service, inspect every 4,000 miles or 2 months
32 Repack if used under severe service

DIFFERENTIAL .... MP♦
Above −10°, 90; below −10°, 80; below −30°, 75
★ Maintain level ½ inch below fill plug hole (axle hoist); bottom of fill plug hole (frame hoist)
Severe service, check level every 4,000 miles or 2 months
CAPACITY 4 pints
DRAIN and REFILL
C Normal service 32 Severe service
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

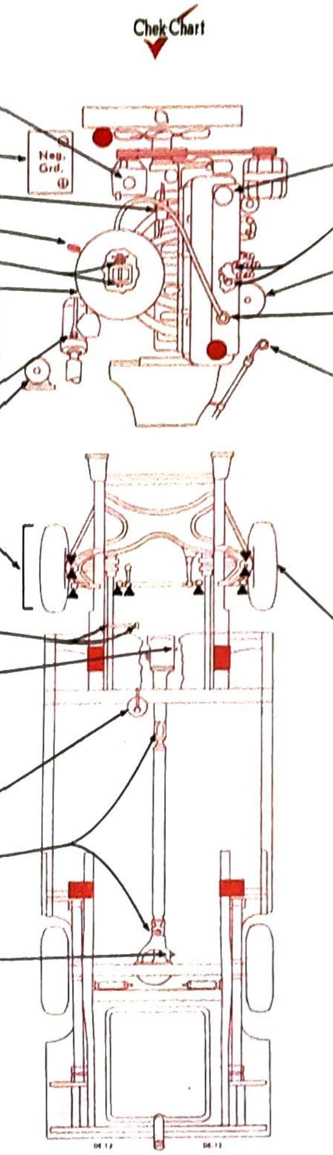
GAS TANK .... Gallons
Station wagon 21
All other models...................... 19

TIRES .... Pressure

	Front	Rear
6.70-15	24	24*
7.00-14, 7.50-14	24	22*▲

* Add 4 pounds for fully loaded station wagon
▲ Station wagon, 26

5 Rotate tires, Method A, then balance wheels



■ Position for lift adapter
▲ Prepacked bearing
● Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	30	10W-30
Above −10°	10W	10W-30
Below −10°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap .... Wash and oil 30 MO ★
Service more frequently under dusty conditions. With closed PCV system, sealed cap, no service

Distributor Shaft (oil cup) .... MO ★
Wick under rotor .... Sparingly MO ★

Oil Filter .... Replace ★
Add extra quart oil

PCV System Valve .... Check ★
Replace valve if clogged; also clean hose and carburetor, if passages are clogged
Service more frequently under severe service

TRANSMISSION, Automatic . AF
Check level, engine idling and thoroughly warm, NEUTRAL position .... ★
Severe service, check level every 4,000 miles or 2 months
To overcome difficult starting below −10°, replace 1½ pints fluid with kerosine. Do not dilute more than once during any one season

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	8

DRAIN and REFILL
Remove 1 converter plug and parking sprag cavity plug; also remove oil pan
Regular drain not recommended
Severe service, drain every 32,000 miles; extremely severe service, every 10,000 miles
Replace transmission filter at time of drain

Front Wheel Bearings .... WB
Inspect 20
Severe service, inspect every 10,000 miles
Repack C
Tighten front wheel adjusting nut to 90 in. lb., position lock nut over adjustment nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key. Final adjustment should be 0 (no preload) to .003" end play

BRAKE ADJUSTMENT

Brakes are self-adjusting. No adjustment normally required
Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ Twice yearly
5 Every 5,000 miles
16 Every 16,000 miles or yearly
20 Every 20,000 miles or 2 years
32 Every 32,000 miles
2Y Every 2 years or 32,000 miles
C Conditional service
Lubricate gearshift lever as required
Drain and refill differential for below −10° requirements
Repack front wheel bearings as required or at brake overhaul

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant — MoPar Part No. 2298947
CC Carburetor Cleaner
HB Hydraulic Brake Fluid, Heavy-Duty — Mo-Par Hi-Temp Brake Fluid
LM Lithium Grease
MH Manifold Heat Control Valve Solvent — MoPar Part No. 1879318
MO Motor Oil
MP♦ Multi-Purpose Gear Lubricant — Meeting Specification MIL-L-2105B
PS Power Steering Fluid — MoPar Part No. 2084329
SG Steering Gear Lubricant
UJ Universal Joint Grease
WB Wheel Bearing Grease

♦ For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

DODGE DART 6
1964 All Models

HOOD RELEASE: Front

TUNE-UP DATA
See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
170 engine	20H	38
225 engine	24H	48

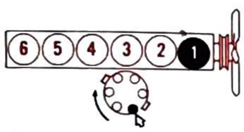
COMPRESSION PRESSURE
(psi at cranking speed, throttle open) min. 110 max. 140* All
* Maximum variation between cylinders, 20 psi

SPARK PLUGS
Champion N-14Y*
Gap: .035"
Torque: 30-32 ft. lb.
* Gasket not required

IGNITION POINTS
Chrysler
Gap: .017"-.023"
Dwell angle: 40°-50°

CONDENSER
Chrysler
Capacity: .25-.285 mfd

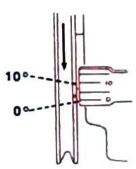
Cylinder Numbering Sequence



Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed to 550 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 2½°

FUEL PUMP
Carter model MS-3674S
Pressure: 3½-5 lb. at idle rpm
Volume: 1 quart per minute or less at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
BALL & BALL 1-bbl. BBS	1	2 rich*	2 rich*
HOLLEY 1-bbl. R	1	2 rich*	2 rich*

* Choke should not be field calibrated. Replace unit if defective

ENGINE IDLE SPEED
Manual Trans. 550 rpm with headlights on high beam
Auto. Trans. 550 rpm in NEUTRAL with headlights on high beam
Air Cond. 550 rpm in NEUTRAL with unit turned ON and headlights on high beam

VALVE CLEARANCES
(engine hot and running)
Intake .010"; exhaust .020"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
Super 225-cu. in. engine	13	12
All other models	12	11

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

★ **Power Steering Reservoir** .... PS
Fill to base of filler neck when cold, halfway when hot

★ **Battery** .... Check and fill
Caution: Do not ground positive terminal

16 **Fuel Filter** .... Replace

Crankcase Dipstick .... Check level

★ **Manifold Heat Control Valve Shaft** .... MH

Air Cleaner Element .... Service
★ Dry type .... Clean
2Y Dry type .... Replace

★ **Carburetor Choke Shaft** .... Clean CC
In carburetor air horn. Remove air cleaner to service

★ **Manual Steering Gear** (plug) .... SG, LM

★ **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir

Front Suspension and Steering Linkage .... (9 plugs) BJ
★ Inspect seal; if damaged, replacement is necessary. After replacing seal, relubricate
32 Relubricate using special adapter. Fill until grease flows from upper ball joint bleed holes or lower joint seal lower lip. Do not rupture seals. Reinstall plug

32 **Torque Shaft** .... LM
Disassemble, clean and repack both ends

TRANSMISSION, Manual ..... AF
★ Maintain level to fill plug hole
Severe service, check level every 4,000 miles or 2 months
CAPACITY 3-speed, 5 pints; 4-speed, 6 pints
DRAIN and REFILL
Regular drain not recommended
Severe service, drain every 32,000 miles; extremely severe service, every 10,000 miles

C **Gearshift Lever** .... MO
Remove rubber boot from floor panel, apply lubricant to pivot points and yoke selector mechanism

Universal Joints .... UJ
Front, 2 ounces, grade 2; rear, grade 0
★ Inspect for leaks, replace seals if necessary
Severe service, inspect every 4,000 miles or 2 months
32 Repack if used under severe service

DIFFERENTIAL .... MP*
Above -10°, 90; below -10°, 80; below -30°, 75
★ Maintain level ½ inch below fill plug hole (axle hoist); bottom of fill plug hole (frame hoist)
Severe service, check level every 4,000 miles or 2 months
CAPACITY 2 pints
DRAIN and REFILL
C Normal service 32 Severe service
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

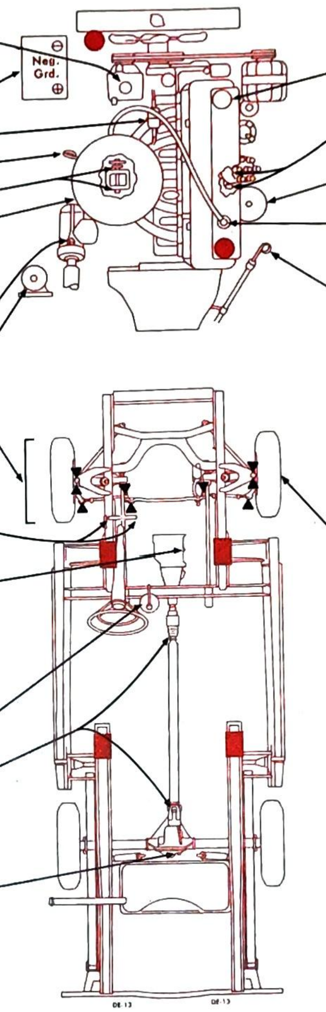
GAS TANK .... Gallons
All models 18

TIRES .... Pressure

	Front	Rear
6.50-13	24	24*

* Station wagon, fully loaded, 28

5 Rotate tires, Method A, then balance wheels



CRANKCASE .... "MS" MO

Above +32°	30	10W-30
Above -10°	10W	10W-30
Below -10°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap .... Wash and oil 30 MO ★
Service more frequently under dusty conditions. With closed PCV system, sealed cap, no service

Distributor Shaft (oil cup) .... MO ★
Wick under rotor .... Sparingly MO ★

Oil Filter .... Replace ★
Add extra quart oil

PCV System Valve .... Check ★
Replace valve if clogged; also clean hose and carburetor, if passages are clogged
Service more frequently under severe service

TRANSMISSION, Automatic .. AF
Check level, engine idling and thoroughly warm, NEUTRAL position .... ★
Severe service, check level every 4,000 miles or 2 months
To overcome difficult starting below -10°, replace 1½ pints fluid with kerosine. Do not dilute more than once during any one season

CAPACITY, quarts	Initial Refill	Total Refill
All models	4	8

DRAIN and REFILL
Remove 1 converter plug, transmission plug and parking sprag cavity plug; also remove oil pan
Regular drain not recommended
Severe service, drain every 32,000 miles; extremely severe service, every 10,000 miles
Replace transmission filter at time of drain

Front Wheel Bearings .... WB
Inspect 20
Severe service, inspect every 10,000 miles
Repack C
Tighten front wheel adjusting nut to 70 in. lb., position lock nut over adjustment nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key. Final adjustment should be 0 (no preload) to .003" end play

BRAKE ADJUSTMENT
Brakes are self-adjusting. No adjustment normally required
Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS
- ★ Twice yearly
- 5 Every 5,000 miles
- 16 Every 16,000 miles or yearly
- 20 Every 20,000 miles or 2 years
- 32 Every 32,000 miles
- 2Y Every 2 years or 32,000 miles
- C Conditional service
  - Lubricate gearshift lever as required
  - Drain and refill differential for below -10° requirements
  - Repack front wheel bearings as required or at brake overhaul

■ Position for lift adapter
▲ Prepacked bearing
● Cooling system drain

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- AF Automatic Transmission Fluid, Type A, Suffix A
- BJ Suspension Lubricant, MoPar Part No. 2298947
- CC Carburetor Cleaner
- HB Hydraulic Brake Fluid, Heavy-Duty, MoPar Hi-Temp Brake Fluid
- LM Lithium Grease
- MH Manifold Heat Control Valve Solvent, MoPar Part No. 1879318
- MO Motor Oil
- MP* Multi-Purpose Gear Lubricant, Meeting Specification MIL-L-2105B
- PS Power Steering Fluid, MoPar Part No. 2084329
- SG Steering Gear Lubricant
- UJ Universal Joint Grease
- WB Wheel Bearing Grease

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

DODGE V-8

1964 All Models Except Dart

Polara | 880 | Others

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
318 engine	24H	48
361, 383 engines	24H	59
426 engine	27H	70

COMPRESSION PRESSURE
(psi at cranking speed, throttle open)

	min.	max.
318 eng.	120	150*
361 eng. (ex. 880 Man. Trans.)	125	155*
361 eng. 880 Man. Trans.	135	165*
383 eng. (ex. 880 Man. Trans.)	130	165**
383 eng. 880 Man. Trans.	130	165**
426 eng.	130	165**

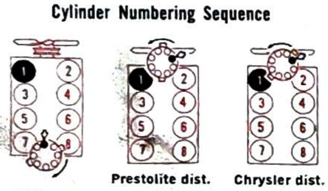
* Maximum variation between cylinders, 20 psi
** Maximum variation between cylinders, 25 psi

SPARK PLUGS
Champion: 318, 361, 383 with 2-bbl. carb., J-12Y
383 with 4-bbl. carb., 426, J-10Y
Gap: .035"
Torque: 30-32 ft. lb.

IGNITION POINTS
Chrysler, Prestolite
Gap: .014"-.019"
Dwell angle: Single points, 28°-33°; each set of dual points, 27°-32°, total dwell, 34°-40°

CONDENSER
Chrysler, Prestolite
Capacity: .25-.285 mfd

Cylinder Numbering Sequence

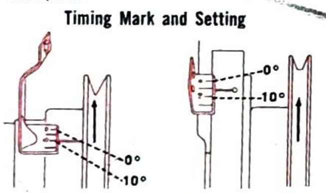


318 eng. — Prestolite dist. / Chrysler dist. — 361, 383, 426 engs.

Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed to 475-500 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



318 eng. — 361, 383, 426 engs.

Timing Setting (Before Top Dead Center): 10°

FUEL PUMP
Carter model: 318 eng., MS-3673S; others, MS-3672S
Pressure: MS-3673S, 5-7 lb.; MS-3672S, 3½-5 lb. at idle rpm
Volume: 1 quart per minute or less at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
BALL & BALL 2-bbl. BBD	1	index*	index*
CARTER 4-bbl. AFB	1½	index*	index*
STROMBERG 2-bbl. WW3	1¼	index*	index*

* Choke should not be field calibrated. Replace unit if defective

ENGINE IDLE SPEED
426 eng., 900 rpm
Others: Manual Trans. 500 rpm, headlights on high beam Auto. Trans. 500 rpm, in NEUTRAL with headlights on high beam
Air Cond. 500 rpm, in NEUTRAL with unit turned ON and headlights on high beam

VALVE CLEARANCES
(engine hot and running)
318 eng.: Intake .013"; exhaust .021"
361, 383, 426 engs.: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
318-cu. in. engine	21	20
361-, 383-, 426-cu. in. engines	17	16

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

★ **Battery** .... Check and fill
Caution: Do not ground positive terminal

★ **Power Steering Reservoir** .... PS
Fill to base of filler neck if cold, halfway when hot

★ **Oil Fill Cap** .... Wash and oil 30 MO
Service more frequently under dusty conditions. With closed PCV system, sealed cap, no service

★ **Carburetor Choke Shaft** .... Clean CC

Air Cleaner Element .... Service
★ Dry type .... Clean
2Y Dry type .... Replace

★ **Manual Steering Gear** (plug) .... SG, LM
880 .... MP
Above −30°, 80; below −30°, 75

★ **Distributor Shaft** (oil cup) .... MO
361-, 383-, 426-cu. in. engines, right side front
★ Wick under rotor .... Sparingly MO

★ **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir

Front Suspension and Steering Linkage .... (8 or 9 plugs) BJ
★ Inspect seal; if damaged, replacement is necessary. After replacing seal, relubricate
32 Relubricate using special adapter. Fill until grease flows from upper ball joint bleed holes or lower joint seal lower lip. Do not rupture seals. Reinstall plug

32 **Torque Shaft** .... LM
Disassemble, clean and repack both ends

TRANSMISSION, Manual
All except 3-speed H.D. .... AF
3-speed H.D. .... MP, AF
Above +32°, 80MP; below +32°, AF
★ Maintain level to fill plug hole
Severe service, check level every 4,000 miles or 2 months
CAPACITY 3-speed: 880 4 pints, H.D. 2½ pints, others 3½ pints; 4-speed 6½ pints
DRAIN and REFILL
Regular drain not recommended
Severe service, drain every 32,000 miles; extremely severe service, every 10,000 miles

C **Gearshift Lever** .... MO
Remove rubber boot from floor panel, apply lubricant to pivot points and yoke selector mechanism

Universal Joints .... UJ
Front, 2 ounces, grade 2; rear, grade 0
★ Inspect for leaks, replace seals if necessary
Severe service, inspect every 4,000 miles or 2 months
32 Repack if used under severe service

DIFFERENTIAL .... MP*
Above −10°, 90; below −10°, 80; below −30°, 75
★ Maintain level ½ inch below fill plug hole (axle hoist); bottom of fill plug hole (frame hoist)
Severe service, check level every 4,000 miles or 2 months
CAPACITY 4 PINTS
DRAIN and REFILL
C Normal service 32 Severe service
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK .... Gallons

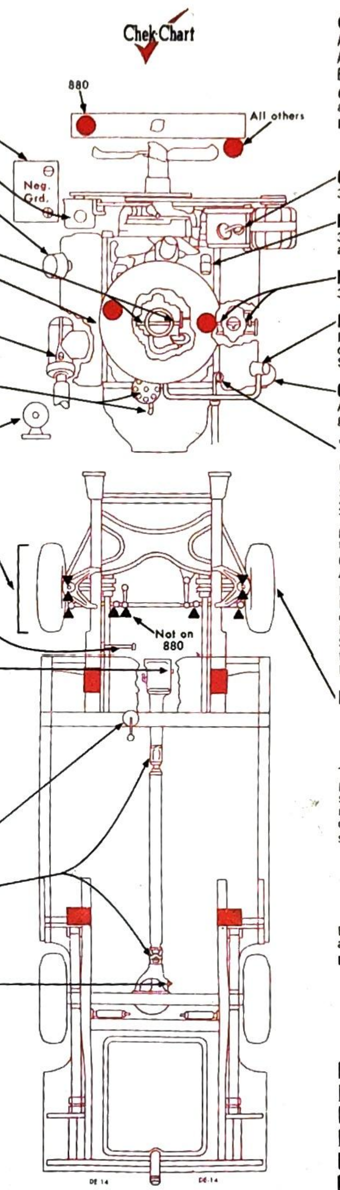
	880	All others
Station wagon and Polara	21	21
All other models	23	19

TIRES .... Pressure

	Front	Rear
6.70-15	24	24*
7.00-14, 7.50-14, 8.00-14	24	22*▲
8.50-14 Sedan	24	22*
8.50-14 Suburban	22	24*

* Add 4 pounds for fully loaded station wagon
▲ Station wagon, 26

5 Rotate tires, Method A, then balance wheels



■ Position for lift adapter
▲ Prepacked bearing
● Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	30	10W-30
Above −10°	10W	10W-30
Below −10°	5W	5W-20

CAPACITY 880 and 426-cu. in. engine, 5 quarts; all others, 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Crankcase Dipstick .... Check level
361-, 383-, 426-cu. in. engines, left side

Fuel Filter .... Replace 16
361-, 383-, 426-cu. in. engines, front of engine above fuel pump

Manifold Heat Control Valve Shaft .... MH ★
361-, 383-, 426-cu. in. engines, at rear of manifold

PCV System Valve .... Check ★
Replace valve if clogged; also clean hose and carburetor, if passages are clogged
Service more frequently under severe service

Oil Filter (under car) .... Replace ★
Add extra quart oil. 361-, 383-, 426-cu. in. engines, left side front

TRANSMISSION, Automatic .. AF
Check level, engine idling and thoroughly warm, NEUTRAL position .... ★
Severe service, check level every 4,000 miles or 2 months
To overcome difficult starting below −10°, replace 1½ pints fluid with kerosine. Do not dilute more than once during any one season

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	9

DRAIN and REFILL
Remove 1 converter plug and parking sprag cavity plug; also remove oil pan
Regular drain not recommended
Severe service, drain every 32,000 miles; extremely severe service, every 10,000 miles
Replace transmission filter at time of drain

Front Wheel Bearings .... WB
Inspect 20
Severe service, inspect every 10,000 miles
Repack C
Tighten front wheel adjusting nut to 90 in. lb., position lock nut over adjusting nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key. Final adjustment should be 0 (no preload) to .003" end play

BRAKE ADJUSTMENT
Brakes are self-adjusting. No adjustment normally required
Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS
★ Twice yearly
5 Every 5,000 miles
16 Every 16,000 miles or yearly
20 Every 20,000 miles or 2 years
32 Every 32,000 miles
2Y Every 2 years or 32,000 miles
C Conditional service
Lubricate gearshift lever as required
Drain and refill differential for below −10° requirements
Repack front wheel bearings as required or at brake overhaul

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant, MoPar Part No. 2298947
CC Carburetor Cleaner
HB Hydraulic Brake Fluid, Heavy-Duty, MoPar Hi-Temp Brake Fluid
LM Lithium Grease
MH Manifold Heat Control Valve Solvent, MoPar Part No. 1879318
MO Motor Oil
MP* Multi-Purpose Gear Lubricant, Meeting Specification MIL-L-2105B
PS Power Steering Fluid, MoPar Part No. 2084329
SG Steering Gear Lubricant
UJ Universal Joint Grease
WB Wheel Bearing Grease

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

DODGE DART V-8

1964 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24H	48

COMPRESSION PRESSURE
(psi at cranking speed, throttle open)

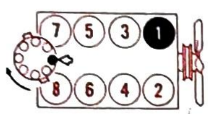
	min.	max.
All	125	155

SPARK PLUGS
Champion N-14Y
Gap: .035"
Torque: 30-32 ft. lb.

IGNITION POINTS
Chrysler
Gap: .014"-.019"
Dwell angle: 28°-33°

CONDENSER
Chrysler
Capacity: .25-.285 mfd

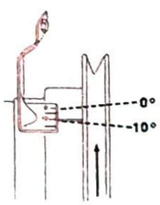
Cylinder Numbering Sequence



Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed with transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
Manual Trans. 5°; Auto. Trans. 10°

FUEL PUMP
Carter model MS-3673S
Pressure: 5-7 lb. at idle rpm
Volume: 1 quart per minute or less at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
BALL & BALL 2-bbl. BBD	1	index	index

ENGINE IDLE SPEED
Manual Trans. 500 rpm, headlights on high beam
Auto. Trans. 500 rpm in NEUTRAL with headlights on high beam
Air Cond. 500 rpm in NEUTRAL with unit turned ON and headlights on high beam

VALVE CLEARANCES
(engine hot and running)
Intake .013"; exhaust .021"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
All models	17	16

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

Chek-Chart

[★] **Battery**..................Check and fill
Caution: Do not ground positive terminal

[★] **Power Steering Reservoir**...............PS
Fill to base of filler neck if cold, halfway when hot

[★] **Carburetor Choke Shaft**...........Clean CC

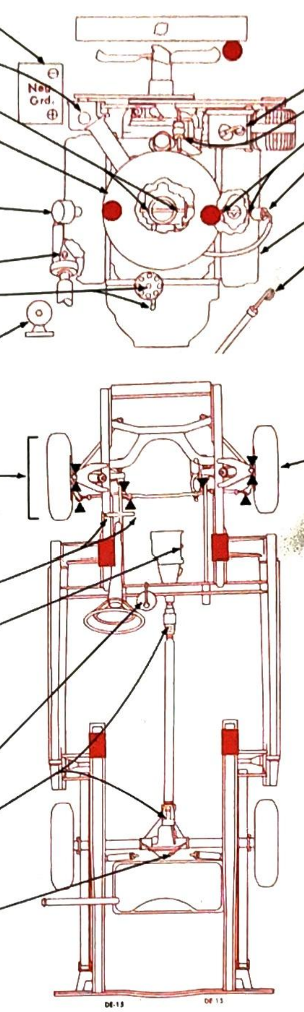
Air Cleaner Element...............Service
[★] Dry type ....Clean
[2Y] Dry type ....Replace

[★] **Oil Fill Cap**...........Wash and oil 30 MO
Service more frequently under dusty conditions. With closed PCV system, sealed cap, no service

[★] **Manual Steering Gear** (plug)..........SG, LM

[★] **Distributor Shaft** (oil cup)...............MO
[★] Wick under rotor...........Sparingly MO

[★] **Brake Master Cylinder** (cover)...........HB
Fill to ¼ inch below top of reservoir



Front Suspension and Steering Linkage............(9 plugs) BJ
[★] Inspect seal; if damaged, replacement is necessary. After replacing seal, relubricate
[32] Relubricate using special adapter. Fill until grease flows from upper ball joint bleed holes or lower joint seal lower lip. Do not rupture seals. Reinstall plug

[32] **Torque Shaft** ....LM
Disassemble, clean and repack both ends

TRANSMISSION, Manual .....AF
[★] Maintain level to fill plug hole
Severe service, check level every 4,000 miles or 2 months
CAPACITY 3-speed, **5 pints**; 4-speed, **6 pints**
DRAIN and REFILL
Regular drain not recommended
Severe service, drain every 32,000 miles; extremely severe service, every 10,000 miles

[C] **Gearshift Lever** ....MO
Remove rubber boot from floor panel, apply lubricant to pivot points and yoke selector mechanism

Universal Joints ....UJ
Front, 2 ounces, grade 2; rear, grade 0
[★] Inspect for leaks, replace seals if necessary
Severe service, inspect every 4,000 miles or 2 months
[32] Repack if used under severe service

DIFFERENTIAL ....MP*
Above -10°, 90; below -10°, 80; below -30°, 75
[★] Maintain level ⅝ inch below fill plug hole (axle hoist); bottom of fill plug hole (frame hoist)
Severe service, check level every 4,000 miles or 2 months
CAPACITY 2 pints
DRAIN and REFILL
[C] Normal service [32] Severe service
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK ....Gallons
All models 18

TIRES...........Pressure	Front	Rear
7.00-13	24	22*

* Suburban, 24; fully loaded, 28

[5] Rotate tires, Method A, then balance wheels

Position for lift adapter
▲ Prepacked bearing
● Cooling system drain

CRANKCASE..............."MS" MO

Above +32°	30	10W-30
Above -10°	10W	10W-30
Below -10°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Crankcase Dipstick.............Check level
Fuel Filter ....Replace [16]
Manifold Heat Control Valve Shaft.........MH [★]
PCV System Valve....................Check [★]
Replace valve if clogged; also clean hose and carburetor, if passages are clogged
Service more frequently under severe service
Oil Filter (under car)..............Replace [★]
Add extra quart oil

TRANSMISSION, Automatic..AF
Check level, engine idling and thoroughly warm, NEUTRAL position .... [★]
Severe service, check level every 4,000 miles or 2 months
To overcome difficult starting below -10°, replace 1½ pints fluid with kerosine. Do not dilute more than once during any one season

CAPACITY, quarts	Initial Refill	Total Refill
All models	4	8

DRAIN and REFILL
Remove 1 converter plug, transmission plug and parking sprag cavity plug; also remove oil pan
Regular drain not recommended
Severe service, drain every 32,000 miles; extremely severe service, every 10,000 miles
Replace transmission filter at time of drain

Front Wheel Bearings.................WB
Inspect .... [20]
Severe service, inspect every 10,000 miles
Repack .... [C]
Tighten front wheel adjusting nut to 70 in. lb., position lock nut over adjustment nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key. Final adjustment should be 0 (no preload) to .003" end play

BRAKE ADJUSTMENT
Brakes are self-adjusting. No adjustment normally required
Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS
[★] Twice yearly
[5] Every 5,000 miles
[16] Every 16,000 miles or yearly
[20] Every 20,000 miles or 2 years
[32] Every 32,000 miles
[2Y] Every 2 years or 32,000 miles
[C] Conditional service
Lubricate gearshift lever as required
Drain and refill differential for below -10° requirements
Repack front wheel bearings as required or at brake overhaul

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A, Suffix A
- **BJ** Suspension Lubricant, MoPar Part No. 2298947
- **CC** Carburetor Cleaner
- **HB** Hydraulic Brake Fluid, Heavy-Duty, MoPar Hi-Temp Brake Fluid
- **LM** Lithium Grease
- **MH** Manifold Heat Control Valve Solvent, MoPar Part No. 1879318
- **MO** Motor Oil
- **MP*** Multi-Purpose Gear Lubricant, Meeting Specification MIL-L-2105B
- **PS** Power Steering Fluid, MoPar Part No. 2084329
- **SG** Steering Gear Lubricant
- **UJ** Universal Joint Grease
- **WB** Wheel Bearing Grease

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

FORD 6

1960 All Models Except Falcon

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	29NF 27F	55, 65 70

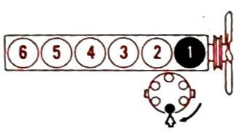
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 130-170

SPARK PLUGS
Autolite: With standard carburetor, BTF6; with economy carburetor, BF82
Gap: With standard carburetor, .030"; with economy carburetor, .035"
Torque: 15-20 ft. lb.
Do not use gasket on tapered seat plugs

IGNITION POINTS
FoMoCo
Gap: .024"-.026"
Dwell angle: 35°-38°

CONDENSER
FoMoCo
Capacity: .21-.25 mfd

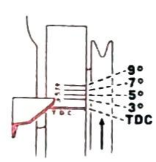
Cylinder Numbering Sequence



Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
Manual Trans. 4° (Allowable range, 2°-9°)
Auto. Trans. 6° (Allowable range, 2°-11°)

FUEL PUMP
AC model 4872* or 4874
Pressure: 3½-5½ lb. at 500 rpm
Volume: 1 pint in 30 seconds or less at 500 rpm
*Combination fuel and vacuum pump

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
HOLLEY 1-bbl.	1-1½

ENGINE IDLE SPEED
Manual Trans. 475-500 rpm
Auto. Trans. 450-475 rpm in DRIVE
With air conditioning, as listed above but with unit turned ON and in operation for 20 minutes

VALVE CLEARANCES
(engine hot and running)
Intake .019"; exhaust .019"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	16	15

Cooling system pressure, 12-15 pounds

4 Oil Fill Cap .... Wash

4 Power Steering Reservoir .... AF
Fill to ¼ inch below top of reservoir

12 Fuel Filter .... Replace

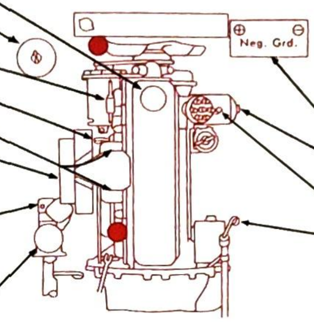
Crankcase Dipstick .... Check level

★ Manifold Heat Control Valve Shaft .... MH

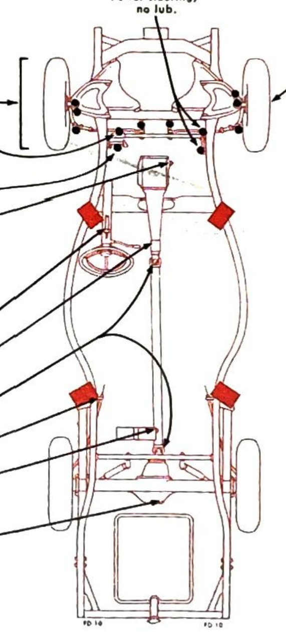
Air Cleaner Element .... Service
6 Dry type .... Clean
24 Dry type .... Replace

6 Steering Gear (plug) .... SG
Turn wheels to left, remove fill plug and housing cover lower cap screw. Fill thru plug hole until lubricant comes out of cap screw hole. With power brakes, fill thru lower cap screw hole, with steering wheel centered

4 Brake Master Cylinder (plug) .... HB
Fill to ½ inch below top of fill hole



Power steering, no lub.



★ Front Suspension and Steering Linkage ..... (8 or 10 fittings) CL

★ Steering Connecting Link CL
Before lubricating models with power steering, remove screws from clamp at control valve to prevent pressure damage to seal. Reassemble

★ Clutch Release Equalizer CL

TRANSMISSION, Manual .. 80 EP
4 Maintain level to fill plug hole
CAPACITY 3 pints with or without overdrive
DRAIN and REFILL Not recommended
Overdrive, check level and drain thru separate plug hole. Fill slowly thru transmission

24 Speedometer Cable .... Coat sparingly WG

24 Universal Joint Spline .... Coat 1 oz. SS
On models with automatic transmission

24 Universal Joints .... Repack UJ

12 Parking Brake Cables .... Coat GG

6 Electric-Hydraulic Mechanism .... HB
On convertibles, back of rear seat back rest
Fill to bottom of fill hole

DIFFERENTIAL .... 90 HP*
4 Maintain level to fill plug hole
CAPACITY 4½ pints
DRAIN and REFILL Not recommended
EQUA-LOCK IDENTIFICATION:
Metal tag stamped with letter "L" attached to left side of carrier housing

GAS TANK .... Gallons
All models 20

TIRES .... Pressure	Front	Rear
7.50-14, 8.00-14	24*	24*
8.50-14, 8.00-14 station wagon, sedan delivery	24*	26*

* For extensive high-speed driving and heavy loading, add 4 to 6 pounds

6 Rotate tires, Method A, then balance wheels

Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO
Above +90° 10W-30
Above +20° 10W-30
Above −10° 10W-30
Below −10° 5W-20
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill ★

Oil Filter .... Replace 4
Add extra quart oil

Distributor Shaft (oil cup) .. Sparingly 10W MO 12

TRANSMISSION, Automatic .. FA
Check level, engine idling, PARK position 4

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	10

DRAIN and REFILL 24
Remove 2 converter plugs and transmission plug
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

Front Wheel Bearings .... Repack WB 12
Initial torque, 11½-12½ ft. lb.; final adjustment, loosen ¼ but not more than ⅓ turn

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than halfway, the need for service is indicated. With power brakes, engine must be running

Adjust the brakes as follows:
1. Disconnect parking brake cable at equalizer
2. Expand shoes until a slight drag is felt when turning drum
3. Back off adjustment until drag is just eliminated and drum turns freely
4. Repeat procedure at each wheel
5. Reconnect parking brake cable and adjust

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ Every 1,000 miles
4 Every 4,000 miles
6 Every 6,000 miles
12 Every 12,000 miles
24 Every 24,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A, Suffix A
- **CL** Chassis Lubricant
- **EP** Mild Extreme Pressure Gear Lub. Ford Specification No. M-568-D
- **FA** Ford Automatic Transmission Fluid Ford Specification No. M2C33-D
- **GG** Graphite Grease
- **HB** Hydraulic Brake Fluid, Heavy-Duty
- **HP*** Hypoid Gear Lubricant Ford Specification No. M2C50-B
- **MH** Manifold Heat Control Valve Solvent FoMoCo Part No. COAA-19A501-A
- **MO** Motor Oil
- **SG** Steering Gear Lubricant Ford Specification No. ESW-M-1C87-A
- **SS** Special Purpose Lubricant Ford Specification No. M1C-39
- **UJ** Universal Joint Grease
- **WB** Wheel Bearing Grease
- **WG** White Waterproof Grease

* Equa-Lock, use Spec. No. M2C50-B and add 1 oz. of additive, Ford Spec. No. M2C58-A per pint of lubricant

FORD V-8

1960 All Models Except Thunderbird

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	29NF	55, 65
	27F	70

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
292 engine 140-180
352 engine 160-200

SPARK PLUGS

Autolite: 292 engine, BF82; 352 engine, BF42
Gap: .032"-.036"
Torque: 15-20 ft. lb.
Do not use gasket on tapered seat plugs

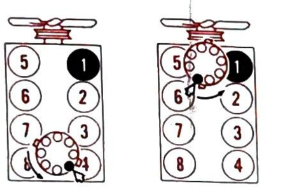
IGNITION POINTS

FoMoCo
Gap: .014"-.016"
Dwell angle: 26°-28½°

CONDENSER

FoMoCo
Capacity: .21-.25 mfd

Cylinder Numbering Sequence



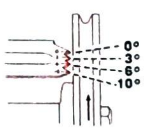
292 eng. 352 eng.

Firing Order:
292 engine 1, 5, 4, 8, 6, 3, 7, 2
352 engine 1, 5, 4, 2, 6, 3, 7, 8

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
Manual Trans. 3° (Allowable range, 2°-8°)
Auto. Trans. 6° (Allowable range, 2°-11°)

FUEL PUMP

AC model 4873* or 4875
Pressure: 4-6 lb. at 500 rpm
Volume: 1 pint in 20 seconds or less at 500 rpm
*Combination fuel and vacuum pump

CARBURETOR ADJUSTMENT

FORD	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
292 engine 2-bbl.	1-1½	2 rich	2 rich
352 engine: 2-bbl.	1-1½	3 lean	3 lean
4-bbl.	1-1½	3 lean	3 lean

ENGINE IDLE SPEED

Manual Trans. 500-525 rpm
Auto. Trans. 450-475 rpm in DRIVE
With air conditioning, as listed above but with unit turned ON and in operation for 20 minutes

VALVE CLEARANCES

(engine hot and running)
292 engine: Intake .019"; exhaust .018"
352 engine: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	20	19

Cooling system pressure, 12-15 pounds

12 **Distributor Shaft** (oil cup)..Sparingly 10W **MO**
292-cu. in. engine, at rear

12 Wick under rotor.......Sparingly 10W **MO**

4 **Power Steering Reservoir**................**AF**
Fill to ¼ inch below top of reservoir

Crankcase Dipstick.............Check level
292-cu. in. engine, right side

Air Cleaner Element...............Service
6 Dry type ....Clean
24 Dry type ....Replace

4 **Oil Filter** (under car)...............Replace
Add extra quart oil. 352-cu. in. engine, forward

6 **Steering Gear** (plug)...................**SG**
Turn wheels to left, remove fill plug and housing cover lower cap screw. Fill thru plug hole until lubricant comes out of cap screw hole. With power brakes, fill thru lower cap screw hole, with steering wheel centered

4 **Brake Master Cylinder** (plug)............**HB**
Fill to ½ inch below top of fill hole

★ **Front Suspension and Steering Linkage**......(8 or 10 fittings) **CL**

★ **Steering Connecting Link**................**CL**
Before lubricating models with power steering, remove screws from clamp at control valve to prevent pressure damage to seals. Reassemble

★ **Clutch Release Equalizer**................**CL**

TRANSMISSION, Manual .80 **EP**
4 Maintain level to fill plug hole
CAPACITY 352-cu. in. engine with overdrive, 4 pints; all other models with or without overdrive, 3 pints
DRAIN and REFILL Not recommended
Overdrive, check level and drain thru separate plug holes. Fill slowly thru transmission

24 **Speedometer Cable**........Coat sparingly **WG**

24 **Universal Joint Spline**..........Coat 1 oz. **SS**
On models with automatic transmission

24 **Universal Joints** ....Repack **UJ**

12 **Parking Brake Cables**..............Coat **GG**

6 **Electric-Hydraulic Mechanism** ....**HB**
On convertibles, back of rear seat back rest
Fill to bottom of fill hole

DIFFERENTIAL............90 **HP***
4 Maintain level to fill plug hole
CAPACITY 4½ pints
DRAIN and REFILL Not recommended
EQUA-LOCK IDENTIFICATION:
Metal tag stamped with letter 'L' attached to left side of carrier housing

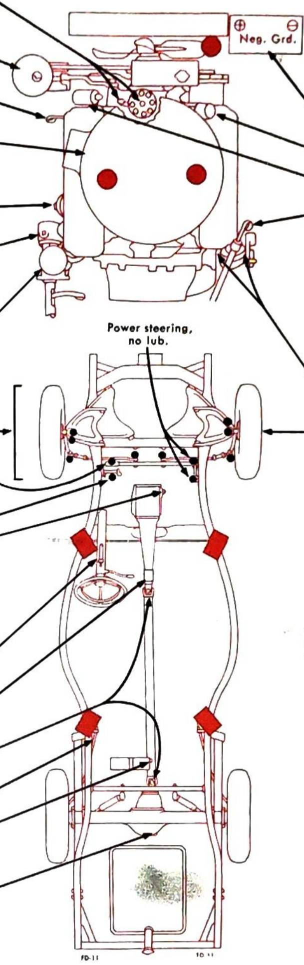
GAS TANK ....Gallons
All models 20

TIRES	Pressure Front	Rear
7.50-14, 8.00-14	24*	24*
8.50-14, 8.00-14 station wagons, sedan delivery	24*	26*

*For extensive high-speed driving and heavy loading, add 4 to 6 pounds.

6 Rotate tires, Method A, then balance wheels

Chek-Chart



CRANKCASE ...."MS" **MO**
Above +90° 10W-30
Above +20° 10W-30
Above −10° 10W-30
Below −10° 5W-20
CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery ....Test and fill ★

Oil Fill Cap ....Wash 4

Fuel Filter ....Replace 12

TRANSMISSION, Automatic..**FA**
Check level, engine idling, PARK position........ 4

CAPACITY, quarts	Initial Refill	Total Refill
Fordomatic 352-cu. in. engine..	5	10½
All other models............	5	10

DRAIN and REFILL........................ 24
Remove 2 converter plugs; Fordomatic remove transmission plug, Cruise-O-Matic disconnect fill pipe
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

Manifold Heat Control Valve Shaft........ **MH** ★

Front Wheel Bearings............Repack **WB** 12
Initial torque, 11½-12½ ft. lb.; final adjustment, loosen ¼ but not more than ⅓ turn

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than halfway, the need for service is indicated. With power brakes, engine must be running
Adjust the brakes as follows:
1. Disconnect parking brake cable at equalizer
2. Expand shoes until a slight drag is felt when turning drum
3. Back off adjustment until drag is just eliminated and drum turns freely
4. Repeat procedure at each wheel
5. Reconnect parking brake cable and adjust

Bleeding sequence: RR, LR, RF, LF

Position for lift adapter
● Lubrication fitting
● Cooling system drain

KEY TO INTERVALS

★ Every 1,000 miles
4 Every 4,000 miles
6 Every 6,000 miles
12 Every 12,000 miles
24 Every 24,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CL Chassis Lubricant
EP Mild Extreme Pressure Gear Lub. Ford Specification No. M-568-D
FA Ford Automatic Transmission Fluid Ford Specification No. M2C33-D
GG Graphite Grease
HB Hydraulic Brake Fluid, Heavy-Duty
HP* Hypoid Gear Lubricant Ford Specification No. M2C50-B
MH Manifold Heat Control Valve Solvent FoMoCo Part No. COAA-19A501-A
MO Motor Oil
SG Steering Gear Lubricant Ford Specification No. ESW-M-1C87-A
SS Special Purpose Lubricant Ford Specification No. M1C-39
UJ Universal Joint Grease
WB Wheel Bearing Grease
WG White Waterproof Grease

* Equa-Lock, use Spec. No. M2C50-B and add 1 oz. of additive, Ford Spec. No. M2C58-A per pint of lubricant

FORD FALCON

1960-62 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22NF	40
	24F	55

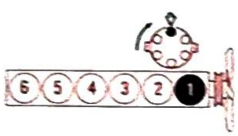
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
1960-61 .... 160-180*
1962 .... 150-190*
* Maximum variation between cylinders, 10 psi

SPARK PLUGS
Autolite BF82
Gap: .032"-.036"
Torque: 15-20 ft. lb.
Do not use gaskets on tapered seat plugs

IGNITION POINTS
FoMoCo
Gap: .024"-.026"
Dwell angle: 35°-38

CONDENSER
FoMoCo
Capacity: .21-.25 mfd

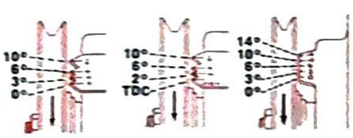
Cylinder Numbering Sequence



Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug
4. Disconnect distributor vacuum line
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
Manual Trans. 4° (Allowable range, 2°-9°)
Auto. Trans. 10° (Allowable range, 2°-15°)

FUEL PUMP
AC model 5594897
Pressure: 3½-5½ lb. at 500 rpm
Volume: 1 pint in 30 seconds at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
HOLLEY 1-bbl.	1-1½

ENGINE IDLE SPEED
Manual Trans.: 1960, 500-525 rpm; 1961-62, 500-550 rpm, with positive crankcase ventilation, 550-600 rpm
Auto. Trans.: 1960, 475-500 rpm in DRIVE; 1961-62, 475-525 rpm, with positive crankcase ventilation, 525-575 rpm; in DRIVE

VALVE CLEARANCES
(engine hot and running)
Intake .016"; exhaust .016"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	9¾	8¾

Cooling system pressure, 12-15 pounds

Oil Filter .... Replace
Add extra quart oil
[4] 1960-61
[6] 1962

[12] **Distributor Shaft** (oil cup) ... Sparingly 10W MO
Crankcase Dipstick .... Check level
Air Cleaner Element .... Service
Dry type .... Clean
[8] 1960-61
[6] 1962
Dry type .... Replace
[24] 1960-61
[30] 1962

[8] **Fuel Pump Sediment Bowl and Screen** ... Clean
1960-61 only
Fuel Filter .... Replace
1961, right side. Replace initially at 4,000 miles
[8] 1960-61
[12] 1962

[6] **Steering Gear** (plug) .... SG
Turn wheels to right, remove fill plug and housing cover upper cap screw. Fill thru plug hole until lubricant comes out of cap screw hole. With power brakes, fill thru upper cap screw hole, with steering wheel centered

[4] **Brake Master Cylinder** (cap) .... HB
Fill to ⅜ inch below top of cylinder

[☆] **Front Suspension and Steering Linkage** .... (12 fittings) CL

[☆] **Clutch Equalizer Shaft** CL
On 1960, some 1961

TRANSMISSION, Manual .. 80 EP
[4] Maintain level to fill plug hole
CAPACITY 3-speed, 2½ pints; 4-speed, 4¾ pints
DRAIN and REFILL Not recommended

[24] **Universal Joint Spline** 1960-61 ... Coat 1 oz. SS
On models with automatic transmission

Universal Joints .... Repack UJ
[24] 1960-61
[30] 1962

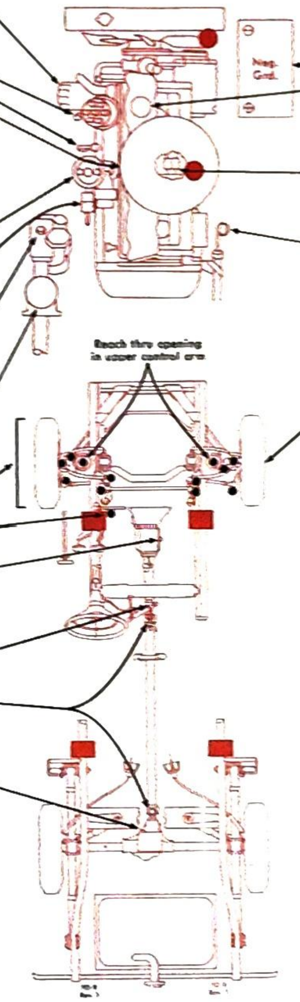
DIFFERENTIAL .... 90 HP
[4] Maintain level to fill plug hole
CAPACITY 2½ pints
DRAIN and REFILL Not recommended

GAS TANK .... Gallons
All models 14

TIRES .... Pressure	Front	Rear
6.00-13, 6.50-13	24*	24*
6.50-13 station wagon	22*	26*◆
6.50-13 Ranchero	24*	30*

* For considerable high-speed driving, add 4 pounds
◆Passenger and cargo loads or with snow tires, 30

Rotate tires, Method A, then balance wheels
[8] 1960-61
[12] 1962
More often under severe road conditions and heavy loads



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO
Above +90° 10W-30
Above +20° 10W-30
Above −10° 10W-30
Below −10° 5W-20
CAPACITY 3½ quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill [☆]
Oil Fill Cap .... Wash
With positive crankcase ventilation system, fill slowly to prevent overflow
1960-61 .... [4]
1962 .... [6]
PCV System Valve .... Clean
Disassemble and clean all parts; also, exhaust line
1960-61 .... [4]
1962 .... [6]

TRANSMISSION, Automatic .. FA
Check level, engine idling, PARK position .... [4]

CAPACITY, quarts	Initial Refill	Total Refill
All models	4	6¼

DRAIN and REFILL
1960 .... [24]
Remove 2 converter plugs and transmission plug
1961-62 Not recommended
Remove 2 converter plugs and transmission oil pan
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

Front Wheel Bearings .... Repack WB [12]
1960-61, initial torque, 11½-12½ ft. lb.; final adjustment loosen ⅛ but not more than ⅙ turn
1962, initial torque, 12-15 ft. lb., then with nut-lock on spindle nut and castellation aligned with hole in spindle, back off both nut and nut-lock together, one castellation and install cotter pin

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:
1. Disconnect parking brake cable at equalizer
2. Using a suitable tool inserted into adjustment opening, turn star wheel adjuster until slight drag is felt when wheel is turned
3. Back off adjustment until drum turns freely without drag
4. Repeat procedure at each wheel
5. Reconnect parking brake cable and adjust

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

[☆] Every 1,000 miles or 30 days
[4] Every 4,000 miles or 4 months
[6] Every 6,000 miles or 6 months
[8] Every 8,000 miles or 8 months
[12] Every 12,000 miles or 12 months
[24] Every 24,000 miles or 2 years
[30] Every 30,000 miles or 2 years

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CL Chassis Lubricant
EP Mild Extreme Pressure Gear Lubricant
Ford Specification No. M-568-D
FA Ford Automatic Transmission Fluid
Ford Specification No. M2C33-D
HB Hydraulic Brake Fluid, Heavy-Duty
HP Hypoid Gear Lubricant
Ford Specification No. M2C50-B
MO Motor Oil
SG Steering Gear Lubricant
Ford Specification No. ESW-M-1C87-A
SS Special Purpose Lubricant
Ford Specification No. M1C-39
UJ Universal Joint Grease
Ford Specification No. M1C57
WB Wheel Bearing Grease
Ford Specification No. M1C60-A

HOOD RELEASE: Front

FORD 6

1961 All Except Falcon
1962-64 Galaxie, 300, Custom

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All ex. Auto. Trans. & A/C	29NF	55
All with Auto. Trans. & A/C	29NF	65
	27F	70

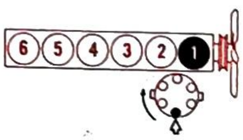
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 130-170
Max. variation: 1961-63, 10 psi; 1964, 20 psi

SPARK PLUGS
Autolite: BTF6 except 1964 with economy carburetor, BF82
Gap: 1961-63, BTF6, .032"-.036"; 1964, BTF6, .028"-.032"; BF82, .032"-.036"
Torque: 15-20 ft. lb.
Do not use gasket on tapered seat plugs

IGNITION POINTS
FoMoCo
Gap: .024"-.026"
Dwell angle: 35°-38°

CONDENSER
FoMoCo
Capacity: .21-.25 mfd

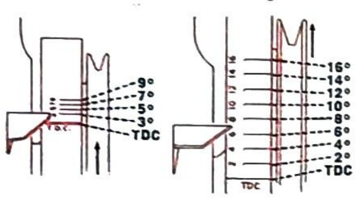
Cylinder Numbering Sequence



Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



1961 1962-64

Timing Setting (Before Top Dead Center):
1961-63:
Manual Trans. 6° (Allowable range, 2°-11°)
Auto. Trans. 12° (Allowable range, 2°-17°)
1964:
Manual Trans. 4°*
Auto. Trans. 10°*
* For optimum performance and economy, timing may be advanced to a point just short of audible detonation under road test load but not to exceed 5° over normal setting. Do not retard initial advance beyond 2° BTDC

FUEL PUMP
AC model: 5594872; with electric windshield wipers, 5594874
Pressure: 3½-5½ lb. at 500 rpm
Volume: 1 pint in 30 seconds at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
FORD 1-bbl.	1-1½
HOLLEY 1-bbl.	1-1½

ENGINE IDLE SPEED
Manual Trans.: 1961-63, 500-525 rpm; 1964, 525-550 rpm
Auto. Trans.: 1961, 475-500 rpm in DRIVE; 1962-63, 450-475 rpm in DRIVE; 1964, 525-550 rpm in DRIVE
With air conditioning, same rpm as listed but with unit turned ON and in operation for 20 minutes

VALVE CLEARANCES
(engine hot and running)
Early 1961: Intake .019"; exhaust .019"
Late 1961, 1962-64 models have mechanical automatic valve adjusters. Periodic adjustment not required

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	16	15

Cooling system pressure, 12-15 pounds

[★] **Oil Fill Cap** .... Wash
With PCV system, fill slowly to prevent overflow. With closed PCV system, sealed cap, no service

[★] **Power Steering Reservoir** .... AF
Fill to ¼ inch below top of reservoir

[36] **Power Steering Filter** .... Replace
1963-64 only. Inside reservoir

Crankcase Dipstick .... Check level

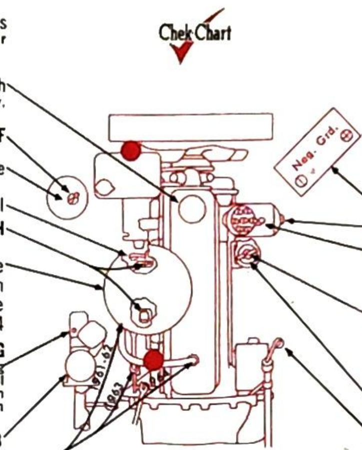
[★] **Manifold Heat Control Valve Shaft** .... MH
1961-62, remove air cleaner to lubricate

Air Cleaner Element .... Service
[★] Dry type .... Clean
Dry type .... Replace
[30] 1961-62 [24] 1963 [36] 1964

[★] **Steering Gear** (plug) .... SG
Turn wheels to left, remove fill plug and housing cover lower cap screw. Fill thru plug hole until lubricant comes out of cap screw hole. With power brakes, fill thru lower cap screw hole, with steering wheel centered

[★] **Brake Master Cylinder** (cap) .... HB
Fill to ⅜ inch below top of cylinder

PCV System .... Service
[★] Valve (1961-62, late 1963, 1964) .... Clean
[12] All parts .... Clean



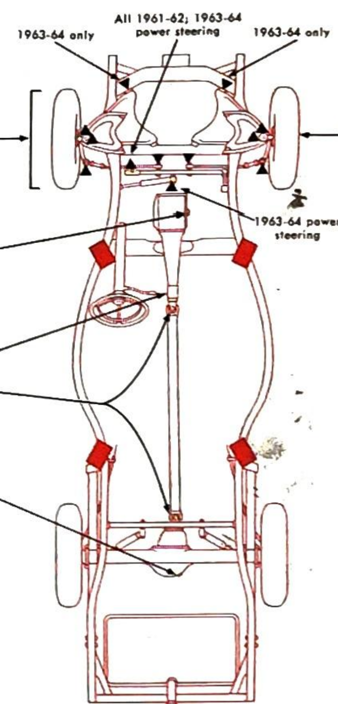
CRANKCASE .... "MS" MO
Above +90° 10W-30
Above +20° 10W-30
Above −10° 10W-30
Below −10° 5W-20
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill [★]
Oil Filter .... Replace, add extra quart oil [★]
Distributor Shaft (oil cup) .. Sparingly 10W MO
1961 .... [12]
1962-64 .... [C]
Fuel Filter .... Replace
1961, left side forward .... [8]
1962, right side forward .... [30]
1963-64 .... [36]
Fuel Pump Sediment Bowl & Screen 1961 . Clean [8]

TRANSMISSION, Automatic .. FA
Check level, engine idling, PARK position .... [★]

CAPACITY, quarts	Initial Refill	Total Refill
1961-63	5	9
1964	5	7½

DRAIN and REFILL Not recommended
Remove 2 converter plugs and oil pan
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added



Front Suspension and Steering Linkage ... (9, 10 or 12 plugs) LM
Relubricate using special adapter. Reinstall plug
[30] 1961-62
[36] 1963-64

Front Wheel Bearings .... Repack WB
1961 .... [12]
1962 .... [30]
1963-64 .... [24]
1961, initial torque, 11½-12½ ft. lb.; final adjustment, loosen ⅛ but not more than ⅙ turn
1962-64, initial torque, 15-20 ft. lb.; then with nut-lock on spindle nut and castellation aligned with hole in spindle, back off both nut and nut-lock together, one castellation and install cotter pin

TRANSMISSION, Manual .. 80 EP
[★] Maintain level to fill plug hole
CAPACITY With or without overdrive: 1961-62, 3 pints; 1963-64, 3½ pints
DRAIN and REFILL Not recommended
Overdrive, check level and drain thru separate plug hole. Fill slowly thru transmission

[30] **Universal Joint Spline** 1961 .... Coat 1 oz. SS
On models with automatic transmission

Universal Joints (plug) .... UJ
[30] 1961-62
[36] 1963-64
Relubricate using special adapter. Reinstall plug

DIFFERENTIAL .... 90 HP*
[★] Maintain level to fill plug hole
CAPACITY 1961-62, 4½ pints; 1963-64, 5 pints
DRAIN and REFILL Not recommended
EQUA-LOCK IDENTIFICATION:
By letters A, B or C under axle ratio listing on patent plate on left front door post

BRAKE ADJUSTMENT
Brakes are self-adjusting. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, proceed as follows:
1. Turn star wheel adjuster until shoes contact drum lightly
2. Remove drums
3. Hold adjusting lever away from star wheel and back off adjustment ¾ turn with finger pressure only. If adjustment screw does not turn easily, remove and lubricate
4. Reinstall drums
5. Operate car in reverse and apply brakes several times

Bleeding sequence: RR, LR, RF, LF

GAS TANK .... Gallons
Station wagons 21
All other models 20

TIRES	Pressure Front	Rear
7.00-14, 7.50-14, 8.00-14	24*	24*
8.00-14 station wagon	24*	28*

* For considerable high-speed driving or heavy loading, add 4 to 6 pounds
Rotate tires, Method A, then balance wheels
[8] 1961 [12] 1962 [6] 1963-64
More often under severe road conditions and heavy loads

Position for lift adapter
▲ Prepacked bearing
Cooling system drain

KEY TO INTERVALS
[★] 1961, Every 4,000 miles or 4 months
1962-64, Every 6,000 miles or 6 months
[6] Every 6,000 miles or 6 months
[8] Every 8,000 miles or 8 months
[12] Every 12,000 miles or 12 months
[24] Every 24,000 miles or 2 years
[30] Every 30,000 miles or 2 years
[36] Every 36,000 miles or 3 years
[C] Conditional service
1962-64, lubricate distributor shaft at time of tune-up

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
EP Mild Extreme Pressure Gear Lub. Ford Specification No. M-568-D
FA Ford Automatic Transmission Fluid Ford Specification No. M2C33-D
HB Hydraulic Brake Fluid, Heavy-Duty
HP* Hypoid Gear Lubricant Ford Specification No. M2C50-B
LM Lithium Grease, with Moly Ford Specification No. M-1C47
MH Manifold Heat Control Valve Solvent FoMoCo Part No. COAA-19A501-A
MO Motor Oil
SG Steering Gear Lubricant Ford Specification No. ESW-M-1C87-A
SS Special Purpose Lubricant Ford Specification No. M1C-39
UJ Universal Joint Grease Ford Specification No. M-1C57
WB Wheel Bearing Grease Ford Specification No. M1C60-A

* Equa-Lock, use Spec. No. M2C50-B and add 1 oz. of additive, Ford Spec. No. M2C58-A per pint of lubricant

FORD V-8

1961 All Models Except Thunderbird;
1962 Galaxie

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	29NF	55, 65
	27F	70

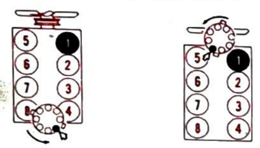
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
292 engine 160*
352, 390, 406 engines..................180*
* Permissible variation is plus or minus 20 psi

SPARK PLUGS
Autolite: 292 eng. BF82; 352, 390, 406 engs. BF42; 406 Super eng. BF32
Gap: 406 Super eng. .025"; others .032"-.036"
Torque: 15-20 ft. lb.
Do not use gasket on tapered seat plugs

IGNITION POINTS
FoMoCo
Gap: Single points, .014"-.016"; dual points, each set, .019"-.021"
Dwell angle: Single and dual points, each set, 26°-28½°; dual points, total dwell, 32°-34°

CONDENSER
FoMoCo Capacity: .21-.25 mfd

Cylinder Numbering Sequence

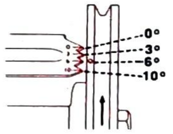


292 eng. Others

Firing Order:
292 engine 1, 5, 4, 8, 6, 3, 7, 2
352, 390, 406 engines 1, 5, 4, 2, 6, 3, 7, 8

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line (except dual point distributor)
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
1961: 292 eng. Manual Trans. 3° (Allowable range, 2°-8°) Auto. Trans. 10° (Allowable range, 2°-15°)
352, 390 engs. Manual Trans. 3° (Allowable range, 2°-8°) Auto. Trans. 6° (Allowable range, 2°-11°)
390 Super eng. (Allowable range, 10°-19°)
1962: 292 eng. Manual Trans. 5° (Allowable range, 2°-10°) Auto. Trans. 12° (Allowable range, 2°-17°)
352, 390 engs. Manual Trans. 5° (Allowable range, 2°-10°) Auto. Trans. 8° (Allowable range, 2°-13°)
406 eng. 8° (Minimum allowable, 2°) 390, 406 Super engs. (Allowable range, 10°-19°)

FUEL PUMP
AC model: 5594873, -4875*, -3461•■, -3450*•■
Pressure: 4-6 lb. at 500 rpm
Volume: 1 pint in 20 seconds at 500 rpm
* With electric wipers • With Air Conditioning
■With 352, 390, 406 engines

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
FORD			
2-bbl.	1-1½	index	2 lean
4-bbl.	1-1½	index*	2 lean
HOLLEY			
2-bbl. (Primary)	1-1½	index	—
(Secondary)	¾-1¼	—	—
4-bbl.	1-1½	index	index

* 390 engine, 2 lean

ENGINE IDLE SPEED
Manual Trans. 500-525* rpm
Auto. Trans. 450-475 rpm** in DRIVE
Air Cond. Same rpm, with unit turned ON
* 390 eng. 575-600 rpm; 390, 406 Super engs. 675-700 rpm
** 1962, 390 eng. 475-500 rpm

VALVE CLEARANCES
(engine hot and running)
292 engine: Intake .019"; exhaust .019"
352, 390 engines: Hydraulic lifters, nonadjustable
390, 406 Super engs.: Intake .025"; exhaust .025"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM.........Quarts

	With Heater	Without Heater
All models	20	19

Cooling system pressure, 12-15 pounds

Distributor Shaft (oil cup)..Sparingly 10W MO
292-cu. in. engine, at rear
[12] 1961
[C] 1962
[12] Wick under rotor......Sparingly 10W MO

Fuel Filter......................Replace
Replace initially at 4,000 miles
292-, 352-cu. in. engine, at front of carburetor
[8] 1961
[30] 1962, except 390, 406 Super engine
390, 406 Super eng. replace every 6,000 miles

★ **Power Steering Reservoir**...............AF
Fill to "F" mark on gage

[8] **Fuel Pump Sediment Bowl & Screen** 1961. Clean

Crankcase Dipstick............Check level
292-cu. in. engine, right side

Air Cleaner Element...............Service
★ Dry type ....Clean
[30] Dry type ....Replace

★ **Oil Filter** (under car)..............Replace
Add extra quart oil
352-, 390-, 406-cu. in. engines, forward

[6] **Steering Gear** (plug)....................SG
Turn wheels to left, remove fill plug and housing cover lower cap screw. Fill thru plug hole until lubricant comes out of cap screw hole. With power brakes, fill thru lower cap screw hole, with steering wheel centered

★ **Brake Master Cylinder** (cap).............HB
Fill to ⅜ inch below top of cylinder

[30] **Front Suspension and Steering Linkage**...........(9 plugs) LM
Relubricate using special adapter. Reinstall plug

TRANSMISSION, Manual..80 EP
★ Maintain level to fill plug hole
CAPACITY 3-speed: 352-, 390-cu. in. Special engines with overdrive, 4 pints; all other models with or without overdrive, 3 pints; 4-speed, 3 pints
DRAIN and REFILL Not recommended
Overdrive, check level and drain thru separate plug holes. Fill slowly thru transmission

[30] **Universal Joint Spline** 1961.....Coat 1 oz. SS
On models with automatic transmission

[30] **Universal Joints** (plug)..................UJ
Relubricate using special adapter. Reinstall plug

DIFFERENTIAL ....90 HP*
★ Maintain level to fill plug hole
CAPACITY 4½ pints
DRAIN and REFILL Not recommended
EQUA-LOCK IDENTIFICATION:
By letters A, B or C under axle ratio listing on patent plate on left front door post

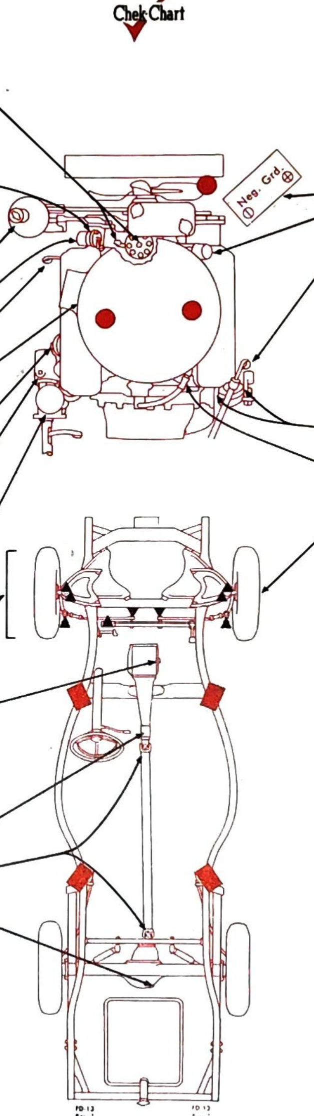
GAS TANK.................Gallons
Station wagons 21
All other models..................... 20

TIRES..........Pressure

	Front	Rear
7.50-14, 8.00-14	24*	24*
8.00-14 station wagon...........	24*	28*

* For considerable high-speed driving or heavy loading, add 4 to 6 pounds

Rotate tires, Method A, then balance wheels
[8] 1961
[12] 1962
More often under severe road conditions and heavy loads



■ Position for lift adapter
▲ Prepacked bearing
● Cooling system drain

CRANKCASE............"MS" MO
Above +90°...................... 10W-30
Above +20°...................... 10W-30
Above −10°...................... 10W-30
Below −10°...................... 5W-20
CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery....................Test and fill ★

Oil Fill Cap........................Wash ★
With positive crankcase ventilation system, fill slowly to prevent overflow

TRANSMISSION, Automatic..FA
Check level, engine idling, PARK position........ ★

CAPACITY, quarts	Initial Refill	Total Refill
Fordomatic	5	9
Cruise-O-Matic	5	10

DRAIN and REFILL Not recommended
Fordomatic, remove 2 converter plugs and transmission oil pan
Cruise-O-Matic, remove 2 converter plugs and disconnect fill pipe
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

Manifold Heat Control Valve Shaft.........MH ★
On all 1961 engines and 1962 292-cu. in. engine

PCV System Valve..................Clean ★
Disassemble and clean all parts; also, exhaust line 292-cu. in. engine, at front of carburetor

Front Wheel Bearings............Repack WB
1961 .... [12]
1962 .... [30]
1961, initial torque, 11½-12½ ft. lb.; final adjustment, loosen ¼ but not more than ⅓ turn
1962, initial torque, 15-20 ft. lb.; then with nut-lock on spindle nut and castellation aligned with hole in spindle, back-off both nut and nut-lock together, one castellation and install cotter pin

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, proceed as follows:
1. Turn star wheel adjuster until shoes contact drum lightly
2. Remove drums
3. Hold adjusting lever away from star wheel and back off adjustment ¾ turn with finger pressure only. If adjustment screw does not turn easily, remove and lubricate
4. Reinstall drums
5. Operate car in reverse and apply brakes several times

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ **1961, Every 4,000 miles or 4 months**
1962, Every 6,000 miles or 6 months
[6] **Every 6,000 miles or 6 months**
[8] **Every 8,000 miles or 8 months**
[12] **Every 12,000 miles or 12 months**
[30] **Every 30,000 miles or 2 years**
[C] **Conditional service**
1962, lubricate distributor shaft at time of tune-up

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
EP Mild Extreme Pressure Gear Lub. Ford Specification No. M-568-D
FA Ford Automatic Transmission Fluid Ford Specification No. M2C33-D
HB Hydraulic Brake Fluid, Heavy-Duty
HP* Hypoid Gear Lubricant Ford Specification No. M2C50-B; with 409-cu. in. engine, use M2C57-A
LM Lithium Grease, with Moly Ford Specification No. M-1C47
MH Manifold Heat Control Valve Solvent FoMoCo Part No. COAA-19A501-A
MO Motor Oil
SG Steering Gear Lubricant Ford Specification No. ESW-M-1C87-A
SS Special Purpose Lubricant Ford Specification No. M1C-39
UJ Universal Joint Grease Ford Specification No. M-1C57
WB Wheel Bearing Grease Ford Specification No. M1C60-A

* Equa-Lock, use Spec. No. M2C50-B and add 1 oz. of additive, Ford Spec. No. M2C58-A per pint of lubricant. Heavy-Duty Dual Drive, use M2C57-A

FORD THUNDERBIRD V-8

1961-62 All Models

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	29NF	65
	27F	70

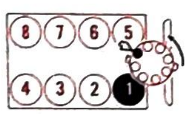
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 180*
* Permissible variation is plus or minus 20 psi

SPARK PLUGS
Autolite: 390 Super eng. BF32; others BF42
Gap: 390 Super eng. .025"; others .032"-.036"
Torque: 15-20 ft. lb.
Do not use gasket on tapered seat plugs

IGNITION POINTS
FoMoCo
Gap: .014"-.016"
Dwell angle: 26°-28½°

CONDENSER
FoMoCo
Capacity: .21-.25 mfd

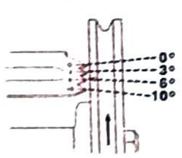
Cylinder Numbering Sequence



Firing Order: 1, 5, 4, 2, 6, 3, 7, 8

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
1961: 6° (Allowable range, 2°-11°)
1962: 390 eng. 8° (Minimum allowable, 2°)
390 Super eng. 6° (Minimum allowable, 2°)

FUEL PUMP
AC model 5593450
Pressure: 4-6 lb. at 500 rpm
Volume: 1 pint in 20 seconds at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Auto. Trans.
FORD 4-bbl.	1-1½	2 lean
HOLLEY 2-bbl. (Primary)	1-1½	index
(Secondary)	¾-1¼	—

ENGINE IDLE SPEED
1961: 450-475 rpm in DRIVE
1962: 475-500 rpm in DRIVE

VALVE CLEARANCES
(engine hot and running)
390 Super eng.: Intake .025"; exhaust .025"
390 eng.: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
All models	20	19

Cooling system pressure, 12-15 pounds

Distributor Shaft (oil cup)..Sparingly 10W MO
12 1961
C 1962
12 Wick under rotor......Sparingly 10W MO

★ **Power Steering Reservoir**..................AF
Fill to "F" mark on gage
With air conditioning, reservoir on left fender apron, fill to 1 inch from top

★ **Oil Filter** (under car)................Replace
Add extra quart oil

Crankcase Dipstick.............Check level

Fuel Filter.........................Replace
Replace initially at 4,000 miles
8 1961, right side under air cleaner
30 1962

★ **Brake Master Cylinder** (cap).............HB
Fill to ⅜ inch below top of cylinder

★ **Front Suspension and Steering Linkage**.........(12 fittings) LM

24 **Universal Joint Spline 1961**.....Coat 1 oz. SS

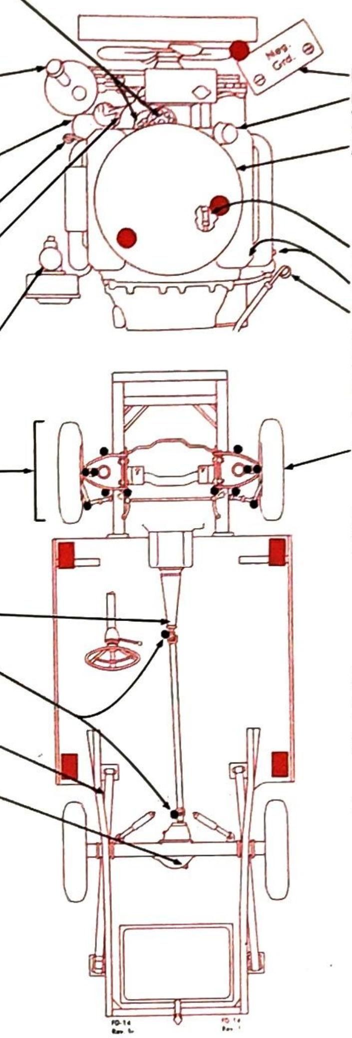
★ **Universal Joints** ....UJ
Use low pressure. Relubricate using special adapter

24 **Rear Spring Inserts**................Replace

DIFFERENTIAL ....90 HP*
★ Maintain level to fill plug hole
CAPACITY 4½ pints
DRAIN and REFILL Not recommended
EQUA-LOCK IDENTIFICATION:
By letter H under axle ratio listing on patent plate on left front door post

GAS TANK..................Gallons
All models 20

TIRES..........Pressure Front Rear
8.00-14 ....24* 24*
* For extensive high-speed driving and heavy loading, add 4 pounds
Rotate tires, Method A, then balance wheels
8 1961 6 1962
More often under severe road conditions and heavy loads



■ Position for lift adapter
• Lubrication fitting
● Cooling system drain

CRANKCASE..............."MS" MO
Above +90°.....................10W-30
Above +20°.....................10W-30
Above −10°.....................10W-30
Below −10°.....................5W-20
CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery.......................Test and fill ★

Oil Fill Cap..........................Wash ★
With positive crankcase ventilation system, fill slowly to prevent overflow

Air Cleaner Element...............Service
Dry type ....Clean ★
Dry type ....Replace
1961 24
1962 30

PCV System Valve...................Clean ★
Disassemble and clean all parts; also, exhaust line

Manifold Heat Control Valve Shaft 1961....MH ★

TRANSMISSION, Automatic..FA
Check level, engine idling, PARK position.......★

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	10

DRAIN and REFILL Not recommended
Remove 2 converter plugs and disconnect fill pipe
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

Front Wheel Bearings............Repack WB
1961 12
1962 30
Initial torque, 15-20 ft. lb.; then with nut-lock on spindle nut and castellation aligned with hole in spindle, back off both nut and nut-lock together one castellation and install cotter pin

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, proceed as follows:
1. Turn star wheel adjuster until shoes contact drum lightly
2. Remove drums
3. Hold adjusting lever away from star wheel and back off adjustment ¾ turn with finger pressure only. If adjustment screw does not turn easily, remove and lubricate
4. Reinstall drums
5. Operate car in reverse and apply brakes several times

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ 1961, Every 4,000 miles or 4 months
1962, Every 6,000 miles or 6 months
6 Every 6,000 miles or 6 months
8 Every 8,000 miles or 8 months
12 Every 12,000 miles or 12 months
24 Every 24,000 miles or 2 years
30 Every 30,000 miles or 2 years
C Conditional service
1962, lubricate distributor shaft at time of tune-up

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
FA Ford Automatic Transmission Fluid
Ford Specification No. M2C33-D
HB Hydraulic Brake Fluid, Heavy-Duty
HP* Hypoid Gear Lubricant
Ford Specification No. M2C50-B
LM Lithium Grease, with Moly
Ford Specification No. M-1C47
MH Manifold Heat Control Valve Solvent
FoMoCo Part No. COAA-19A501-A
MO Motor Oil
SS Special Purpose Lubricant
Ford Specification No. M1C-39
UJ Universal Joint Grease
Ford Specification No. M1C57
WB Wheel Bearing Grease
Ford Specification No. M1C60-A

* Equa-Lock, use Spec. No. M2C50-B and add 1 oz. of additive, Ford Spec. No. M2C58-A per pint of lubricant

FORD 6

1962-64 Fairlane All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22NF	40
	24F	55

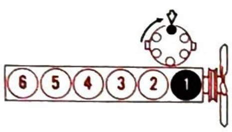
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 150-190
Max. variation: 1962-63, 10 psi; 1964, 20 psi

SPARK PLUGS
Autolite BF82
Gap: .032"-.036"
Torque: 15-20 ft. lb.
Do not use gasket on tapered seat plugs

IGNITION POINTS
FoMoCo
Gap: .024"-.026"
Dwell angle: 35°-38°

CONDENSER
FoMoCo
Capacity: .21-.25 mfd

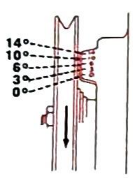
Cylinder Numbering Sequence



Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft pulley and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
1962: Manual Trans. 4° (Allowable range, 2°-9°)
Auto. Trans. 10° (Allowable range, 2°-15°)
1963: Manual Trans. 6° (Allowable range, 2°-11°)
Auto. Trans. 12° (Allowable range, 2°-17°)
1964: Manual Trans. 6°*
Auto. Trans. 12°*
* For optimum performance and economy, timing may be advanced to a point just short of audible detonation under road test load but not to exceed 5° over normal setting. Do not retard initial advance beyond 2° BTDC

FUEL PUMP
AC model: 5594872; with electric windshield wipers, 5594874
Pressure: 3½-5½ lb. at 500 rpm
Volume: 1 pint in 30 seconds at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
FORD 1-bbl.	1-1½
HOLLEY 1-bbl.	1-1½

ENGINE IDLE SPEED
Manual Trans.: 1962-63, 500-550 rpm; with positive crankcase ventilation, 550-600 rpm; 1964, 500-525 rpm
Auto. Trans.: 1962, 475-525 rpm in DRIVE with positive crankcase ventilation, 525-575 rpm; 1963-64, 500-525 rpm in DRIVE
With air conditioning, same rpm as listed but with unit turned ON and in operation for 20 minutes

VALVE CLEARANCES
(engine hot and running)
1962: Intake .016"; exhaust .016"
1963-64: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
All models	9½	8½

Cooling system pressure, 12-15 pounds

★ **Power Steering Reservoir** ....AF
Fill to "F" mark on gage

36 **Power Steering Filter** ....Replace
1963-64 only. Inside reservoir

12 **PCV System** Early 1963 ....Clean
Clean tube and separator

★ **Oil Filter** ....Replace
Add extra quart oil

C **Distributor Shaft** (fill oil cup)........10W MO

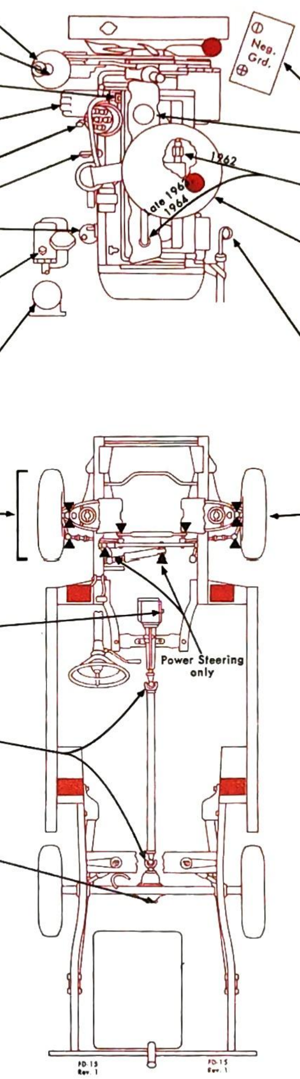
Crankcase Dipstick ....Check level

Fuel Filter ....Replace
30 1962
36 1963-64

★ **Steering Gear** (plug)....................SG
Turn wheels to left, remove fill plug and housing cover lower cap screw. Fill thru plug hole until lubricant comes out of cap screw hole. With power brakes, fill thru lower cap screw hole, with steering wheel centered

★ **Brake Master Cylinder** (cap).............HB
Fill to ⅜ inch below top of cylinder

Chek-Chart



CRANKCASE ...."MS" MO
Above +90° 10W-30
Above +20° 10W-30
Above −10° 10W-30
Below −10° 5W-20
CAPACITY 3½ quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery ....Test and fill ★

Oil Fill Cap ....Wash ★
With PCV system, fill slowly to prevent overflow.
With closed PCV system, sealed cap, no service

PCV System ....Service
Valve ....Clean ★
All parts ....Clean 12

Air Cleaner Element ....Service
Dry type ....Clean ★
Dry type ....Replace
1962 30
1963 24
1964 36

TRANSMISSION, Automatic ..FA
Check level, engine idling, PARK position....... ★

CAPACITY, quarts	Initial Refill	Total Refill
All models	4	6½

DRAIN and REFILL Not recommended
Remove 2 converter plugs and transmission oil pan
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

Front Suspension and Steering Linkage ......(8 or 10 plugs) LM
Relubricate using special adapter. Reinstall plug
30 1962
36 1963-64

Front Wheel Bearings ....Repack WB
1962 30
1963-64 24
Initial torque, 15-20 ft. lb.; then with nut-lock on spindle nut and castellation aligned with hole in spindle, back off both nut and nut-lock together, one castellation and install cotter pin

TRANSMISSION, Manual ..80 EP
★ Maintain level to fill plug hole
CAPACITY 2½ pints
DRAIN and REFILL Not recommended

Universal Joints (plug)..................UJ
Relubricate using special adapter. Reinstall plug
30 1962
36 1963-64

DIFFERENTIAL ....90 HP
★ Maintain level to fill plug hole
CAPACITY 4½ pints
DRAIN and REFILL Not recommended

GAS TANK ....Gallons
All models 16

TIRES ....Pressure

	Front	Rear
6.50-13, 6.50-14	24*	24*
7.00-13	24*	24*
7.00-14 sedans w/air cond.	24*	24*
7.00-14 station wagon	24*	28*

* For considerable high-speed driving or heavy loads, add 4 pounds

Rotate tires, Method A
12 1962
★ 1963-64

■ Position for lift adapter
▲ Prepacked bearing
● Cooling system drain

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, proceed as follows:
1. Turn star wheel adjuster until shoes contact drum lightly
2. Remove drums
3. Hold adjusting lever away from star wheel and back off adjustment ¾ turn with finger pressure only. If adjustment screw does not turn easily, remove and lubricate
4. Reinstall drums
5. Operate car in reverse and apply brakes several times

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ Every 6,000 miles or 6 months
12 Every 12,000 miles or 12 months
24 Every 24,000 miles or 2 years
30 Every 30,000 miles or 2 years
36 Every 36,000 miles or 3 years
C Conditional service
Lubricate distributor shaft at time of tune-up

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
EP Mild Extreme Pressure Gear Lub. Ford Specification No. M-568-D
FA Ford Automatic Transmission Fluid Ford Specification No. M2C33-D
HB Hydraulic Brake Fluid, Heavy-Duty
HP Hypoid Gear Lubricant Ford Specification No. M2C50-B
LM Lithium Grease, with Moly Ford Specification No. M-1C47
MO Motor Oil
SG Steering Gear Lubricant Ford Specification No. ESW-M-1C87-A
UJ Universal Joint Grease Ford Specification No. M-1C57
WB Wheel Bearing Grease Ford Specification No. M1C60-A

HOOD RELEASE: Front

FORD V-8

1962-64 Fairlane All Models

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24F	55, 65

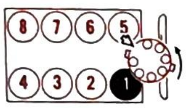
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 130-170
Max. variation: 1962-63, 10 psi; 1964, 20 psi

SPARK PLUGS
Autolite: 289 engine with 4-bbl. carb. BF32; others, BF42
Gap: 1962-63 .035"; 1964 .032"-.036"
Torque: 15-20 ft. lb.
Do not use gasket on tapered seat plugs

IGNITION POINTS
FoMoCo
Gap: .014"-.016" except 289 eng. with 4-bbl. carb. .019"-.021"
Dwell angle: 26°-28½° except 289 eng. with 4-bbl. carb. 30°-33°

CONDENSER
FoMoCo
Capacity: .21-.25 mfd

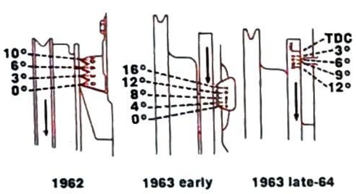
Cylinder Numbering Sequence



Firing Order: 1, 5, 4, 2, 6, 3, 7, 8

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
1962: 5° (Allowable range, 2°-10°)
1963: 221 eng. Manual Trans. 4° (Allowable range, 2°-9°)
Auto. Trans. 12° (Allowable range, 2°-17°)
260 eng. Manual Trans. 4° (Allowable range, 2°-9°)
Auto. Trans. 10° (Allowable range 2°-15°)
289 eng. 10° (Allowable range, 2°-15°)
1964: 260, 289 (2-bbl. carb.) engs.
Manual Trans. 4°*
Auto. Trans. 10°*
289 (4-bbl. carb.) eng.
Manual Trans. 10°*

* If engine requirements or substandard fuels dictate, timing may be retarded from recommended setting to eliminate detonation but not to exceed 2° BTDC

FUEL PUMP
AC mechanical
Pressure: 4-6 lb. at 500 rpm
Volume: 1 pint in 20 seconds at 500 rpm

CARBURETOR ADJUSTMENT

FORD	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
1962 2-bbl.	1-1½	2 lean	2 lean
1963 2-bbl.	1-1½	4 lean	4 lean
1964 2-bbl.	1-1½	2 rich	2 rich
4-bbl.	1-1½	3 lean	3 lean

ENGINE IDLE SPEED
Manual Trans.: 1962, 500-525 rpm; 1963-64, 575-600 rpm except 289 eng. with 4-bbl. carb., 700-800 rpm
Auto. Trans. 475-500 rpm in DRIVE
With air conditioning, same rpm as listed but with unit turned ON and in operation for 20 minutes

VALVE CLEARANCES
(engine hot and running)
289 engine with 4-bbl. carb.
Intake .018"; exhaust .018"
Others: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	14½	13½

Cooling system pressure, 12-15 pounds

Chek Chart

Fuel Filter .... Replace
[30] 1962
[36] 1963-64, except 289-cu. in. engine every 6,000 miles

[★] **Power Steering Reservoir** .... AF
Fill to "F" mark on gage

[36] **Power Steering Filter** .... Replace
1963-64 only. Inside reservoir

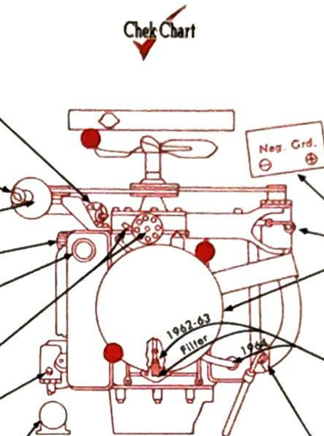
[★] **Oil Filter** (under car) .... Replace
Add extra quart oil

[★] **Oil Fill Cap** .... Wash
With PCV system, fill slowly to prevent overflow. With closed PCV system, sealed cap, no service 1962-63, right side, front of air cleaner

[C] **Distributor Shaft** (fill oil cup) .... 10W MO
[C] Wick under rotor .... Sparingly 10W MO

[★] **Steering Gear** (plug) .... SG
Turn wheels to left, remove fill plug and housing cover lower cap screw. Fill thru plug hole until lubricant comes out of cap screw hole. With power brakes, fill thru lower cap screw hole, with steering wheel centered

[★] **Brake Master Cylinder** (cap) .... HB
Fill to ⅜ inch below top of cylinder



CRANKCASE .... "MS" MO
Above +90° 10W-30
Above +20° 10W-30
Above −10° 10W-30
Below −10° 5W-20
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill [★]
Crankcase Dipstick .... Check level
Air Cleaner Element .... Service
Dry type .... Clean [★]
Dry type .... Replace
1962-63 .... [30]
1964 .... [36]

PCV System .... Service
Valve .... Clean [★]
All parts .... Clean
Including filter on 1962-63 only
1962 .... [24]
1963-64 .... [12]

TRANSMISSION, Automatic .. FA
Check level, engine idling, PARK position .... [★]

CAPACITY, quarts	Initial Refill	Total Refill
1962-63		
221-cu. in. engine ..	4	6½
260-cu. in. engine ..	4	7½
1964 All	4	7½

DRAIN and REFILL Not recommended
Remove 2 converter plugs, disconnect fill pipe, then remove oil pan
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

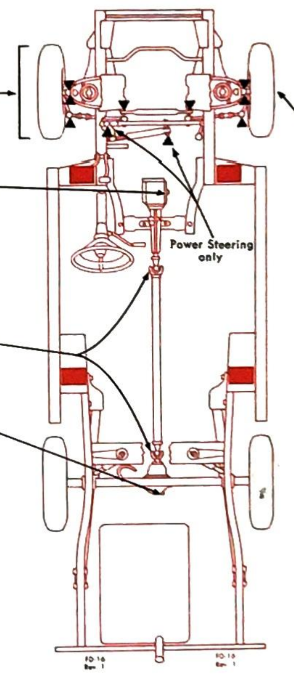
Front Suspension and Steering Linkage .... (8 or 10 plugs) LM
Relubricate using special adapter. Reinstall plug
[30] 1962
[36] 1963-64

Front Wheel Bearings .... Repack WB
1962 .... [30]
1963-64 .... [24]
Initial torque, 15-20 ft. lb.; then with nut-lock on spindle nut and castellation aligned with hole in spindle, back off both nut and nut-lock together, one castellation and install cotter pin

TRANSMISSION, Manual .. 80 EP
[★] Maintain level to fill plug hole
CAPACITY 1962 3½ pints, with overdrive, 4 pints; 1963-64 3-speed 3½ pints, with overdrive, 3½ pints; 4-speed 3 pints
DRAIN and REFILL Not recommended
Overdrive, check level and drain thru separate plug holes. Fill slowly thru transmission

Universal Joints (plug) .... UJ
Relubricate using special adapter. Reinstall plug
[30] 1962
[36] 1963-64

DIFFERENTIAL .... 90 HP
[★] Maintain level to fill plug hole
CAPACITY 4½ pints; 289-cu. in. engine, 5 pints
DRAIN and REFILL Not recommended



BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, proceed as follows:
1. Turn star wheel adjuster until shoes contact drum lightly
2. Remove drums
3. Hold adjusting lever away from star wheel and back off adjustment ¾ turn with finger pressure only. If adjustment screw does not turn easily, remove and lubricate
4. Reinstall drums
5. Operate car in reverse and apply brakes several times

Bleeding sequence: RR, LR, RF, LF

GAS TANK .... Gallons
All models 16

TIRES	Pressure Front	Rear
6.50-14	24*	24*
7.00-13	24*	24*
7.00-14 sedans w/air cond.	24*	24*
7.00-14 station wagon	24*	28*

* For considerable high-speed driving or heavy loads, add 4 pounds

Rotate tires, Method A
[12] 1962
[★] 1963-64

■ Position for lift adapter
▲ Prepacked bearing
● Cooling system drain

KEY TO INTERVALS

[★] Every 6,000 miles or 6 months
[12] Every 12,000 miles or 12 months
[24] Every 24,000 miles or 2 years
[30] Every 30,000 miles or 2 years
[36] Every 36,000 miles or 3 years
[C] Conditional service
Lubricate distributor shaft and wick under rotor at time of tune-up

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
EP Mild Extreme Pressure Gear Lub. Ford Specification No. M-568-D
FA Ford Automatic Transmission Fluid Ford Specification No. M2C33-D
HB Hydraulic Brake Fluid, Heavy-Duty
HP Hypoid Gear Lubricant Ford Specification No. M2C50-B; with 289-cu. in. 4V engine, M2C57-A
LM Lithium Grease, with Moly Ford Specification No. M-1C47
MO Motor Oil
SG Steering Gear Lubricant Ford Specification No. ESW-M-1C87-A
UJ Universal Joint Grease Ford Specification No. M-1C57
WB Wheel Bearing Grease Ford Specification No. M1C60-A

FORD V-8

1963-64 Galaxie, 300, Custom

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
260, 289 engs.	24F	55, 65
352, 390 engs.	29NF	55, 65
406, 427; Opt. 352, 390 engs.	27F	70

COMPRESSION PRESSURE

(at cranking speed with throttle open) — psi

		psi
1963:	260, 289 engs.	150
	352, early 390, 406, 427 engs.	180
	Late 390 eng.	190
1964:	289 eng.	130-170
	352, 390 2-bbl., 427 engs.	160-200
	390 4-bbl. eng.	170-210

Maximum variation between cylinders, 20 psi

SPARK PLUGS

Autolite: BF42 ex. 390 Super, 406, 427 engs. BF32
Gap: .032"-.036" except 1963 390 Super, 406, 427 engs., .028"-.032" Torque: 15-20 ft. lb.

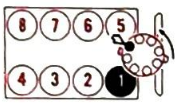
IGNITION POINTS

FoMoCo Gap: 1963 single points, .014"-.016"; dual points, each set, .019"-.021"; 1964, .014"-.016" except 427 eng., .019"-.021"
Dwell angle: Single and dual points, each set, 26°-28½° except 427 eng., 22°-24°, Dual points, total dwell, 1963 32°-34°; 1964 33°-36°

CONDENSER

FoMoCo Capacity: .21-.25 mfd

Cylinder Numbering Sequence

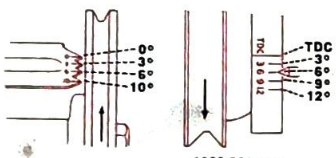


Firing Order: 1, 5, 4, 2, 6, 3, 7, 8

TIMING PROCEDURE

Follow procedure listed on Chart FD-16

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
1963: 260, 289 engs.
Man. Trans. 6° (2°-11°); Auto. Trans. 10° (2°-15°)
352, 390 engs.
Man. Trans. 3° (2°-8°); Auto. Trans. 6° (2°-11°)
390 Super, 406, 427 engs. 8° (2°-8°)
1964: 289 eng. Man. Trans. 6°*; Auto. Trans. 10°*
352 eng. Man. Trans. 6°**; Auto. Trans. 10°**
390 2-bbl., Man. Trans. 6°**; Auto. Trans. 6°**
390 4-bbl., Man. Trans. 4°**; Auto. Trans. 6°**
390 Police, Man. Trans. 4°*; Auto. Trans. 6°*
427 eng., 8°*

* If engine requirements or substandard fuels dictate, timing may be retarded from recommended setting to eliminate detonation but not to exceed 2° BTDC

** For optimum performance and economy, timing may be advanced to a point just short of audible detonation under road test load but not to exceed 5° over normal setting. Do not retard initial advance beyond 2° BTDC

FUEL PUMP

AC mechanical Pressure:
1963, 260 eng. 4-5 lb.; others 4-6 lb.; at 500 rpm
1964, 289 eng. 4-6 lb.; others 4.5-6.5 lb.; 500 rpm
Volume: 1 pint in 20 seconds at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
FORD			
2-bbl.	1-1½	index*	2 lean*
4-bbl.	1-1½	index**	2 lean**
HOLLEY			
2-bbl. (Primary)	1-1½	index	—
(Secondary)	¾-1¼	—	—
4-bbl. (Primary)	1-1½	index	—
(Secondary)	1-1½	—	—

* 260, 289 engs., 4 lean ** 390 eng., 2 lean

ENGINE IDLE SPEED

Man. Trans. 575-600 rpm; ex. 427, 700-800 rpm
Auto. Trans.: 1963, 450-475 rpm in DRIVE
1964, 289, 352, 390 engs. 475-500 rpm; 390 Police, 550-575 rpm; in DRIVE
With air conditioning, same rpm but with unit turned ON and in operation for 20 minutes

VALVE CLEARANCES

(engine hot and running)
390 Police, 406, 427 engs.: In. .025"; Ex. .025"
Others: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All except 260-, 289-cu. in. eng.	20½	19½
260-, 289-cu. in. eng.	14½	13½

Cooling system pressure, 12-15 pounds

[36] **Fuel Filter** .... Replace
406-, 427-cu. in. engines, right side under air cleaner, replace every 6,000 miles

[★] **Power Steering Reservoir** .... AF
Fill to "F" mark on gage

[36] **Power Steering Filter** .... Replace
Inside reservoir

[★] **Oil Filter** (under car) .... Replace
Add extra quart oil

[★] **Oil Fill Cap** .... Wash
Fill slowly to prevent overflow. With closed PCV system, sealed cap, no service
352-, 390-, 406-, 427-cu. in. engines, right side, front of air cleaner

[C] **Distributor Shaft** (fill oil cup) .... 10W MO
[C] Wick under rotor .... Sparingly 10W MO

Air Cleaner Element .... Service
[★] Dry type .... Clean
Dry type .... Replace
[30] 1963 [36] 1964

[★] **Steering Gear** (plug) .... SG
Turn wheels to left, remove fill plug and housing cover lower cap screw. Fill thru plug hole until lubricant comes out of cap screw hole. With power brakes, fill thru lower cap screw hole, with steering wheel centered

[★] **Brake Master Cylinder** (cap) .... HB
Fill to ⅜ inch below top of cylinder

[36] **Front Suspension and Steering Linkage** .... (10 or 12 plugs) LM
Lubricate using special adapter. Reinstall plug

TRANSMISSION, Manual ... 80 EP

[★] Maintain level to fill plug hole
CAPACITY 3-, 4-speed, **3½ pints,** with or without overdrive
DRAIN and REFILL Not recommended
Overdrive, check level and drain thru separate plug holes. Fill slowly thru transmission

[36] **Universal Joints** (plug) .... UJ
Lubricate using special adapter. Reinstall plug

DIFFERENTIAL .... 90 HP*

[★] Maintain level to fill plug hole
CAPACITY 5 pints; 406-, 427-cu. in. eng., **5½** pints
DRAIN and REFILL Not recommended
EQUA-LOCK IDENTIFICATION:
By letters A, B or C under axle ratio listing on patent plate on left front door post

GAS TANK .... Gallons

Station wagons	21
All other models	20

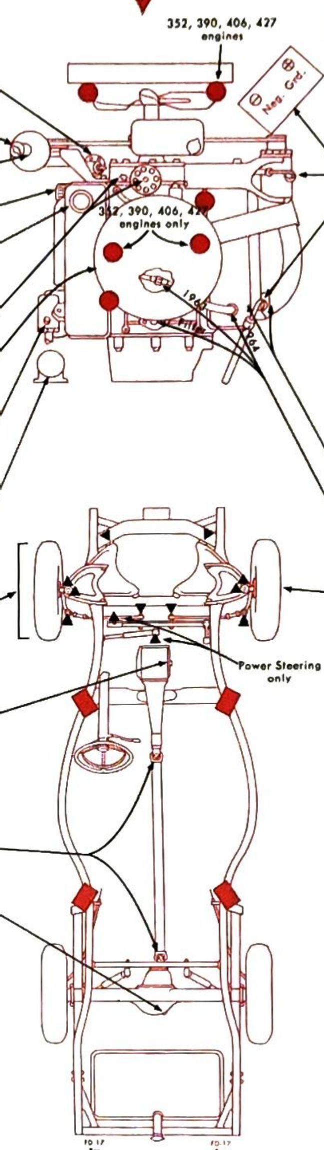
TIRES .... Pressure

	Front	Rear
7.00-14, 7.50-14, 8.00-14	24*	24*
8.00-14 station wagon	24*	28*

* For considerable high-speed driving or heavy loading, add 4 pounds

[★] **Rotate tires, Method A, then Balance wheels**
More often under severe road conditions and heavy loads

Chek-Chart



Position for lift adapter
▲ Prepacked bearing
Cooling system drain

CRANKCASE .... "MS" MO

Above +90° 10W-30
Above +20° 10W-30
Above −10° 10W-30
Below −10° 5W-20

CAPACITY 260-, 289-cu. in. engines, 4 quarts; all others, **5 quarts**
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill [★]

Crankcase Dipstick .... Check level
352-, 390-, 406-, 427-cu. in. engines, left side

TRANSMISSION, Automatic .. FA

Check level, engine idling, PARK position .... [★]

CAPACITY, quarts	Initial Refill	Total Refill
Fordomatic		
352-, 390-cu. in. eng.	5	9
260-, 289-cu. in. eng.	4	6
Cruise-O-Matic		
352-, 390-cu. in. eng.	5	10
260-cu. in. eng.	5	9
289-cu. in. eng.	5	9
Cruise-O-Matic C4		
289-cu. in. eng.	5	7½

DRAIN and REFILL Not recommended
Remove 2 converter plugs; Cruise-O-Matic, disconnect fill pipe; C4 and Fordomatic, remove oil pan
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

Manifold Heat Control Valve Shaft .... MH [★]
On 406-, 427-cu. in. engines only

PCV System .... Service
Valve .... Clean [★]
All parts .... Clean [12]
Including filter, if so equipped

Front Wheel Bearings .... Repack WB [24]
Initial torque, 15-20 ft. lb., then with nut-lock on spindle nut and castellation aligned with hole in spindle, back off both nut and nut-lock together, one castellation and install cotter pin

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, proceed as follows:

1. Turn star wheel adjuster until shoes contact drum lightly
2. Remove drums
3. Hold adjusting lever away from star wheel and back off adjustment ¾ turn with finger pressure only. If adjustment screw does not turn easily, remove and lubricate
4. Reinstall drums
5. Operate car in reverse and apply brakes several times

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

[★] Every 6,000 miles or 6 months
[12] Every 12,000 miles or 12 months
[24] Every 24,000 miles or 2 years
[30] Every 30,000 miles or 2 years
[36] Every 36,000 miles or 3 years
[C] Conditional service
Lubricate distributor shaft and wick at time of tune-up

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
EP Mild Extreme Pressure Gear Lub. — Ford Specification No. M-568-D
FA Ford Automatic Transmission Fluid — Ford Specification No. M2C33-D
HB Hydraulic Brake Fluid, Heavy-Duty
HP* Hypoid Gear Lubricant — Ford Specification No. M2C50-B; with 390-, 406-, 427-cu. in. engines, M2C57-A
LM Lithium Grease, with Moly — Ford Specification No. M-1C47
MH Manifold Heat Control Valve Solvent — FoMoCo Part No. COAA-19A501-A
MO Motor Oil
SG Steering Gear Lubricant — Ford Specification No. ESW-M-1C87-A
UJ Universal Joint Grease — Ford Specification No. M-1C57
WB Wheel Bearing Grease — Ford Specification No. M1C60-A

* Equa-Lock, use Spec. No. M2C50-B and add 1 oz. of additive, Ford Spec. No. M2C58-A per pint of lubricant

FORD FALCON 6

1963-64 All Models

1963 1964

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22NF	40
	24F	55

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
All 150-190
Max. variation: 1963, 10 psi; 1964, 20 psi

SPARK PLUGS

Autolite BF82
Gap: .032"-.036"
Torque: 15-20 ft. lb.
Do not use gaskets on tapered seat plugs

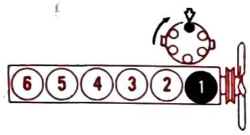
IGNITION POINTS

FoMoCo
Gap: .024"-.026"
Dwell angle: 35°-38°

CONDENSER

FoMoCo
Capacity: .21-.25 mfd

Cylinder Numbering Sequence

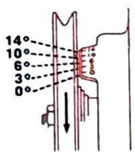


Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug
4. Disconnect distributor vacuum line
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft pulley and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):

1963:
Manual Trans. 4° (Allowable range, 2°-9°)
Auto. Trans. 10° (Allowable range, 2°-15°)

1964:
144 eng., Man. Trans. 8°*; Auto. Trans. 12°*
170 eng., Man. Trans. 6°*; Auto. Trans. 12°*
200 eng., Auto. Trans. 12°*

* For optimum performance and economy, timing may be advanced to a point just short of audible detonation under road test load but not to exceed 5° over normal setting. Do not retard initial advance beyond 2° BTDC

FUEL PUMP

AC mechanical
Pressure: 3½-5½ lb. at 500 rpm
Volume: 1 pint in 30 seconds at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
FORD 1-bbl.	1-1½	manual	manual*

* 1964, 200 engine, index

ENGINE IDLE SPEED

Manual Trans. 500-525 rpm
Auto. Trans. 500-525 rpm in DRIVE
With air conditioning, as listed above but with unit turned ON and in operation for 20 minutes

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
All models	9½	8½

Cooling system pressure, 12-15 pounds

★ **Power Steering Reservoir** ....AF
Fill to "F" mark on gage. With air conditioning, reservoir on left fender apron; fill to ¼ inch from top

36 **Power Steering Filter** ....Replace
Inside reservoir

★ **Oil Filter** ....Replace
Add extra quart oil

12 **PCV System** Early 1963 ....Clean
Clean tube, filter and separator

C **Distributor Shaft** (oil cup)..Sparingly 10W MO

Crankcase Dipstick ....Check level

36 **Fuel Filter** ....Replace

Air Cleaner Element ....Service
★ Dry type ....Clean
Dry type ....Replace
24 1963 36 1964

★ **Steering Gear** (plug) ....SG
Turn wheels to right, remove fill plug and housing cover upper cap screw. Fill thru plug hole until lubricant comes out of cap screw hole. With power brakes, fill thru upper cap screw hole, with steering wheel centered

★ **Brake Master Cylinder** (cap) ....HB
Fill to ⅜ inch below top of cylinder

36 **Front Suspension** ....(4 or 6 plugs) LM
Lubricate using special adapter. Reinstall plug

★ **Steering Linkage** ......(5 or 6 sealed bearings)
Inspect seal; if damaged, or if there is any evidence of looseness, replace entire pivot assembly

36 **Pitman Arm Stud** ....(plug) LM
Models with power steering only. Lubricate using special adapter. Reinstall plug

TRANSMISSION, Manual ..80 EP
★ Maintain level to fill plug hole
CAPACITY 3-speed, 2½ pints; 4-speed, 4½ pints
DRAIN and REFILL Not recommended

36 **Universal Joints** (plug) ....UJ
Lubricate using special adapter. Reinstall plug

DIFFERENTIAL ....90 HP
★ Maintain level to fill plug hole
1964, fill plug on rear cover
CAPACITY 2½ pints
DRAIN and REFILL Not recommended

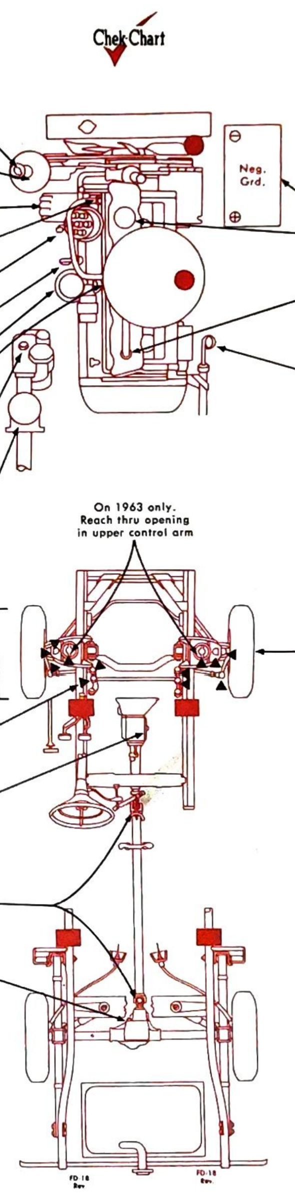
GAS TANK ....Gallons
All models 14

TIRES ....Pressure Front Rear

	Front	Rear
6.00-13	24*	24*
6.50-13	24*	24*
7.00-13	24*	24*
Station wagon	24*	28*
Ranchero	24*	30*

* For considerable high-speed driving or heavy loading, add 4 pounds

★ **Rotate tires, Method A, then balance wheels**
More often under severe road conditions and heavy loads



Position for lift adapter
▲ Prepacked bearing
Cooling system drain

CRANKCASE ...."MS" MO
Above +90° 10W-30
Above +20° 10W-30
Above −10° 10W-30
Below −10° 5W-20
CAPACITY 3½ quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery ....Test and fill ★

Oil Fill Cap ....Wash ★
Fill slowly to prevent overflow. With closed PCV system, sealed cap, no service

PCV System Late 1963, 1964 ....Service
Valve ....Clean ★
All parts ....Clean 12

TRANSMISSION, Automatic ..FA
Check level, engine idling, PARK position ......★

CAPACITY, quarts	Initial Refill	Total Refill
All models	4	7½

DRAIN and REFILL Not recommended
Remove 2 converter plugs and oil pan
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

Front Wheel Bearings ....Repack WB 24
Initial torque, 12-15 ft. lb.; then with nut-lock on spindle nut and castellation aligned with hole in spindle, back off both nut and nut-lock together one castellation and install cotter pin

BRAKE ADJUSTMENT

Self-adjusting brakes are used. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, adjust the brakes as follows:

Note: If frame contact hoist is used, disconnect parking brake cable

1. Expand shoes until a slight drag is felt when turning drums
2. Remove brake drums
3. Hold adjusting lever away from adjusting screw, and back off adjusting screw ¾ turn
4. Reinstall drums and wheels
5. Operate car in reverse and make 5 or 6 brake applications to bring shoes into proper adjustment
6. Reconnect and adjust parking brake cable

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ Every 6,000 miles or 6 months
12 Every 12,000 miles or 12 months
24 Every 24,000 miles or 24 months
36 Every 36,000 miles or 36 months
C Conditional service
Lubricate distributor shaft at time of tune-up

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
EP Mild Extreme Pressure Gear Lub. Ford Specification No. M-568-D
FA Ford Automatic Transmission Fluid Ford Specification No. M2C33-D
HB Hydraulic Brake Fluid, Heavy-Duty
HP Hypoid Gear Lubricant Ford Specification No. M2C50-B
LM Lithium Grease, with Moly Ford Specification No. M-1C47
MO Motor Oil
SG Steering Gear Lubricant Ford Specification No. ESW-M-1C87-A
UJ Universal Joint Grease Ford Specification No. M-1C57
WB Wheel Bearing Grease Ford Specification No. M1C60-A

FORD FALCON V-8

1963-64 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24F	55, 65

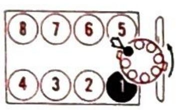
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 130-170
Max. variation: 1963, 10 psi; 1964, 20 psi

SPARK PLUGS
Autolite BF42
Gap: .032"-.036"
Torque: 15-20 ft. lb.
Do not use gasket on tapered seat plugs

IGNITION POINTS
FoMoCo
Gap: .014"-.016"
Dwell angle: 26°-28½°

CONDENSER
FoMoCo
Capacity: .21-.25 mfd

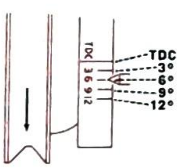
Cylinder Numbering Sequence



Firing Order: 1, 5, 4, 2, 6, 3, 7, 8

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Disconnect distributor vacuum line and tape manifold opening
3. Connect tachometer
4. Connect timing light to No. 1 spark plug
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor as necessary to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
1963:
Manual Trans. 6° (Allowable range, 2°-11°)
Auto. Trans. 10° (Allowable range, 2°-15°)
1964:
Manual Trans. 6°*
Auto. Trans. 10°*
* For optimum performance and economy, timing may be advanced to a point just short of audible detonation under road test load but not to exceed 5° over normal setting. Do not retard initial advance beyond 2° BTDC

FUEL PUMP
AC mechanical
Pressure: 4-6 lb. at 500 rpm
Volume: 1 pint in 20 seconds at 500 rpm

CARBURETOR ADJUSTMENT

FORD	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
2-bbl.	1-1½	2 lean*	2 lean*

* 1964, 2 rich

ENGINE IDLE SPEED
Manual Trans. 575-600 rpm
Auto. Trans. 475-500 rpm in DRIVE
With air conditioning, as listed above but with unit turned ON and in operation for 20 minutes

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	14½	13½

Cooling system pressure, 12-15 pounds

36 **Fuel Filter** .... Replace

★ **Power Steering Reservoir** .... AF
Fill to "F" mark on gage. With air conditioning, reservoir on left fender apron; fill to ¼ inch from top

36 **Power Steering Filter** .... Replace
Inside reservoir

★ **Oil Filter** (under car) .... Replace
Add extra quart oil

★ **Oil Fill Cap** .... Wash
Fill slowly to prevent overflow. With closed PCV system, sealed cap, no service
1963, located on right side, front of air cleaner

C **Distributor Shaft** (fill oil cup) .... 10W MO
C Wick under rotor .... Sparingly 10W MO

Air Cleaner Element .... Service
★ Dry type .... Clean
Dry type .... Replace
30 1963 36 1964

★ **Steering Gear** (plug) .... SG
Turn wheels to right, remove fill plug and housing cover upper cap screw. Fill thru plug hole until lubricant comes out of cap screw hole. With power brakes, fill thru upper cap screw hole, with steering wheel centered

★ **Brake Master Cylinder** (cap) .... HB
Fill to ⅜ inch below top of cylinder

36 **Front Suspension** .... (4 or 6 plugs) LM
Lubricate using special adapter. Reinstall plug

★ **Steering Linkage** .... (5 or 6 sealed bearings)
Inspect seal; if damaged, or if there is any evidence of looseness, replace entire pivot assembly

36 **Pitman Arm Stud** .... (plug) LM
Models with power steering only. Lubricate using special adapter. Reinstall plug

TRANSMISSION, Manual .... 80 EP
★ Maintain level to fill plug hole
CAPACITY 3-speed, 2½ pints; 4-speed, 4½ pints
DRAIN and REFILL Not recommended

36 **Universal Joints** (plug) .... UJ
Lubricate using special adapter. Reinstall plug

DIFFERENTIAL .... 90 HP
★ Maintain level to fill plug hole
1964, fill plug on rear cover
CAPACITY 4½ pints
DRAIN and REFILL Not recommended

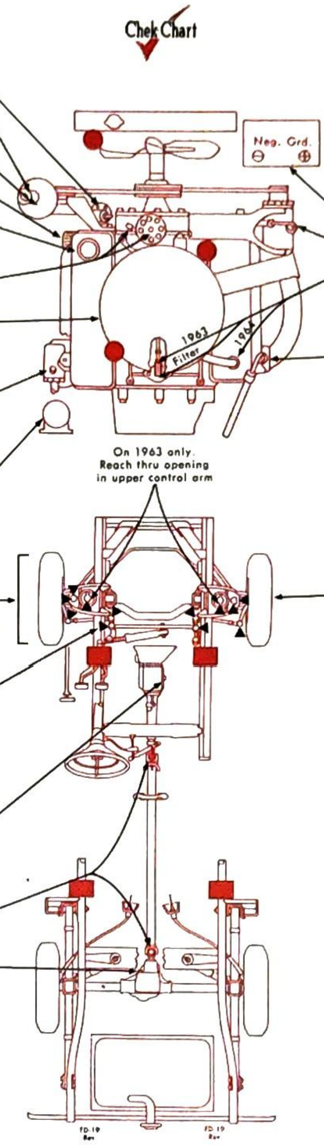
GAS TANK .... Gallons
1964 station wagon 20
All others 14

TIRES

	Pressure Front	Rear
6.00-13	24*	24*
6.50-13	24*	24*
7.00-13	24*	24*
Ranchero, station wagon	24*	28*

* For considerable high-speed driving or heavy loading, add 4 pounds

★ **Rotate tires, Method A, then balance wheels**
More often under severe road conditions and heavy loads



Position for lift adapter
▲ Prepacked bearing
Cooling system drain

CRANKCASE .... "MS" MO
Above +90° 10W-30
Above +20° 10W-30
Above −10° 10W-30
Below −10° 5W-20
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill ★

Crankcase Dipstick .... Check level

PCV System .... Service
Valve .... Clean ★
All parts .... Clean 12
Including filter on 1963 only

TRANSMISSION, Automatic .... FA
Check level, engine idling, PARK position .... ★

CAPACITY, quarts	Initial Refill	Total Refill
All models	4	7½

DRAIN and REFILL Not recommended
Remove 2 converter plugs and oil pan
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

Front Wheel Bearings .... Repack WB 24
Initial torque, 12-15 ft. lb.; then with nut-lock on spindle nut and castellation aligned with hole in spindle, back off both nut and nut-lock together one castellation and install cotter pin

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, proceed as follows:
1. Turn star wheel adjuster until shoes contact drum lightly
2. Remove drums
3. Hold adjusting lever away from star wheel and back off adjustment ¾ turn with finger pressure only. If adjustment screw does not turn easily, remove and lubricate
4. Reinstall drums
5. Operate car in reverse and apply brakes several times

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ Every 6,000 miles or 6 months
12 Every 12,000 miles or 12 months
24 Every 24,000 miles or 24 months
30 Every 30,000 miles
36 Every 36,000 miles or 36 months
C Conditional service
Lubricate distributor shaft and wick at time of tune-up

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
EP Mild Extreme Pressure Gear Lub. Ford Specification No. M-568-D
FA Ford Automatic Transmission Fluid Ford Specification No. M2C33-D
HB Hydraulic Brake Fluid, Heavy-Duty
HP Hypoid Gear Lubricant Ford Specification No. M2C50-B
LM Lithium Grease, with Moly Ford Specification No. M-1C47
MO Motor Oil
SG Steering Gear Lubricant Ford Specification No. ESW-M-1C87-A
UJ Universal Joint Grease Ford Specification No. M-1C57
WB Wheel Bearing Grease Ford Specification No. M1C60-A

HOOD RELEASE: Outside

FORD THUNDERBIRD V-8

1963-64 All Models

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	29NF	55
1963: Optional	27F	70
1964: Optional	27F	80

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
1963: Early models 180
Late models 190
1964 170-210
Permissible variation is plus or minus 20 psi

SPARK PLUGS

Autolite: 390 Super eng. BF32; others BF42
Gap: 390 Super eng. .025"; others, .032"-.036"
Torque: 15-20 ft. lb.
Do not use gasket on tapered seat plugs

IGNITION POINTS

FoMoCo
Gap: .014"-.016"
Dwell angle: 26°-28½°

CONDENSER

FoMoCo
Capacity: .21-.25 mfd

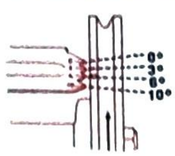
Cylinder Numbering Sequence

Firing Order: 1, 5, 4, 2, 6, 3, 7, 8

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft pulley and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
1963: 6° (Allowable range, 2°-11°)
1964: 8°*

* For optimum performance and economy, timing may be advanced to a point just short of audible detonation under road test load but not to exceed 5° over normal setting. Do not retard initial advance beyond 2° BTDC

FUEL PUMP

AC model 5593450
Pressure: 1963, 4-6 lb.; 1964, 4.5-6.5 lb.; at 500 rpm
Volume: 1 pint in 20 seconds at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Auto. Trans.
FORD		
4-bbl.	1-1½*	2 lean
HOLLEY		
2-bbl. (Primary)	1-1½	index
(Secondary)	¾-1¼	—

* 1964, 1½ turns

ENGINE IDLE SPEED

390 Super eng. 675-700 rpm; others, 475-500 rpm; in DRIVE
With air conditioning, as listed above but with unit turned ON and in operation for 20 minutes

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	20	19

Cooling system pressure, 12-15 pounds

[C] **Distributor Shaft** (oil cup) .. Sparingly 10W MO
[C] Wick under rotor ...... Sparingly 10W MO

[★] **Power Steering Reservoir** .... AF
Fill to "F" mark on gage
With air conditioning, reservoir on left fender apron, fill to 1 inch from top

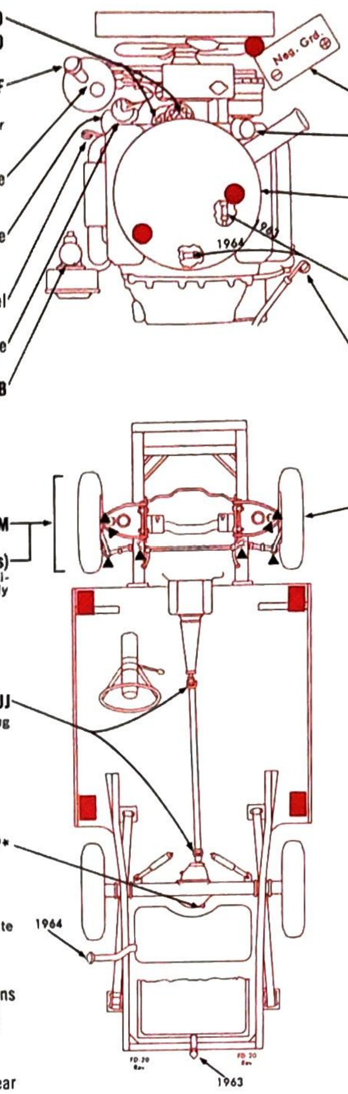
[36] **Power Steering Filter** .... Replace
Inside reservoir

[★] **Oil Filter** (under car) .... Replace
Add extra quart oil

Crankcase Dipstick .... Check level

[36] **Fuel Filter** (under car) .... Replace

[★] **Brake Master Cylinder** (cap) .... HB
Fill to ⅜ inch below top of cylinder



CRANKCASE .... "MS" MO

Above +90° 10W-30
Above +20° 10W-30
Above −10° 10W-30
Below −10° 5W-20

CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill [★]

Oil Fill Cap .... Wash [★]
With PCV system, fill slowly to prevent overflow.
With closed PCV system, sealed cap, no service

Air Cleaner Element .... Service
Dry type .... Clean [★]
Dry type .... Replace
1963 [30] 1964 [36]

PCV System .... Service
Valve .... Clean [★]
All parts .... Clean [12]

TRANSMISSION, Automatic .. FA

Check level, engine idling, PARK position ...... [★]

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	10

DRAIN and REFILL Not recommended
Remove 2 converter plugs and disconnect fill pipe
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

[100] **Front Suspension** .... (4 plugs) LM
Lubricate using special adapter. Reinstall plug

[★] **Steering Linkage** .... (4 sealed bearings)
Inspect seal; if damaged, or if there is any evidence of looseness, replace entire pivot assembly

Front Wheel Bearings .... Repack WB
1963 [24] 1964 [30]
Initial torque, 15-20 ft. lb.; then with nut-lock on spindle nut and castellation aligned with hole in spindle, back off both nut and nut-lock together, one castellation and install cotter pin

[100] **Universal Joints** (plug) .... UJ
Lubricate using special adapter. Reinstall plug

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, proceed as follows:

1. Turn star wheel adjuster until shoes contact drum lightly
2. Remove drums
3. Hold adjusting lever away from star wheel and back off adjustment ¾ turn with finger pressure only. If adjustment screw does not turn easily, remove and lubricate
4. Reinstall drums
5. Operate car in reverse and apply brakes several times

Bleeding sequence: RR, LR, RF, LF

DIFFERENTIAL .... 90 HP*

[★] Maintain level to fill plug hole
CAPACITY 5 pints
DRAIN and REFILL Not recommended
EQUA-LOCK IDENTIFICATION:
By letter H under axle ratio listing on patent plate on left front door post

GAS TANK .... Gallons

1963 20
1964 22

TIRES .... Pressure

	Front	Rear
8.00-14, 8.15-15	24*	24*

* For extensive high-speed driving and heavy loading, add 4 pounds

[★] Rotate tires, Method A, then balance wheels
More often under severe road conditions and heavy loads

Position for lift adapter
▲ Prepacked bearing
● Cooling system drain

KEY TO INTERVALS

[★] Every 6,000 miles or 6 months
[12] Every 12,000 miles or 12 months
[24] Every 24,000 miles or 2 years
[30] Every 30,000 miles or 2 years
[36] Every 36,000 miles or 36 months
[100] Every 100,000 miles or 36 months
[C] Conditional service
Lubricate distributor shaft and wick under rotor at time of tune-up

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
FA Ford Automatic Transmission Fluid — Ford Specification No. M2C33-D
HB Hydraulic Brake Fluid, Heavy-Duty
HP* Hypoid Gear Lubricant — Ford Specification No. M2C50-B
LM Lithium Grease, with Moly — Ford Specification No. M-1C47
MO Motor Oil
UJ Universal Joint Grease — Ford Specification No. M-1C57
WB Wheel Bearing Grease — Ford Specification No. M1C60-A

* Equa-Lock, use Spec. No. M2C50-B and add 1 oz. of additive, Ford Spec. No. M2C58-A per pint of lubricant

IMPERIAL

1962-63 All Models


1962


1963

HOOD RELEASE: Inside

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	27H	70

COMPRESSION PRESSURE

(psi at cranking speed, throttle open) min. max.
All 130 165*
* Maximum variation between cylinders, 25 psi

SPARK PLUGS

Champion J-12Y
Gap: .035"
Torque: 30 ft. lb.

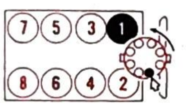
IGNITION POINTS

Chrysler
Gap: .014"-.019"
Dwell angle: 1962, 27°-32°; 1963, 28°-33°

CONDENSER

Chrysler
Capacity: .25-.285 mfd

Cylinder Numbering Sequence

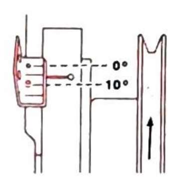


Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect vacuum line at distributor
5. Set idle speed to 500 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 10°

FUEL PUMP

Carter model M-2769S
Pressure: $3\frac{1}{2}$-5 lb. at 500 rpm
Volume: 1 quart in 60 seconds at 500 rpm

CARBURETOR ADJUSTMENT

CARTER	Idle Mixture (initial turns)	Choke (notches) Auto. Trans.
4-bbl. AFB-3251S	1-2	2 rich
4-bbl. AFB-3256S	1-2	2 rich

ENGINE IDLE SPEED

500 rpm in NEUTRAL with headlights on high beam
Air Cond. 500 rpm in DRIVE with unit turned ON with headlights on high beam

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	17	16

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

★ **Oil Filter** (under car) .... Replace
Add extra quart oil

OC **Battery** .... Test and fill
Caution: Do not ground positive terminal

★ **Power Steering Reservoir** .... PS
Fill to base of filler neck when cold, halfway when hot

Crankcase Dipstick .... Check level

Oil Fill Cap .... Wash and oil 30 MO
OC 1963 8 1962

32 **Automatic Trans. Filter** (under car) .... Replace
Replace at time of transmission drain

Air Cleaner Element .... Service
8 Dry type .... Clean
32 Dry type .... Replace

TY **Carburetor Choke Piston** CC
Remove air cleaner to service. Apply cleaner while moving choke valve back and forth

★ **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir

PCV System Valve CC
Remove and clean valve; also hose and carburetor, if passages are clogged
TY 1963 8 1962
Service more frequently under severe service

8 **Crankcase Breather Outlet Element** 1962 ..... Wash and oil 30 MO

★ **Front Suspension** .... (4 plugs) BJ
Inspect seal, if damaged, replacement is necessary. After replacing seal or when relubricating, remove plug, use special gun or proper adapter. Install plug
32 Relubricate using special adapter. Fill until grease flows from upper ball joint bleed holes or lower joint seal lower lip. Do not rupture seals. Reinstall plug

★ **Steering Linkage** .... (4 sealed bearings)
Inspect seal, replace if damaged or worn

Universal Joint Spline .... MP
Above −10°, 90; below −10°, 80
Disassemble, fill half-full
1963, lubricate spline when repacking joints
32 1962

Universal Joints .... Grade 0 UJ
TY 1963 .... Inspect
Inspect for leaks, replace seals if necessary
32 1963, repack if used under severe service
32 1962, repack under all service conditions

DIFFERENTIAL .... MP*

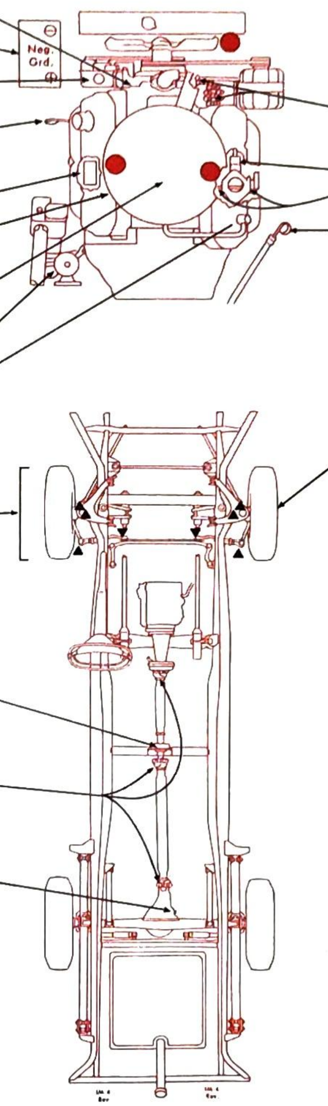
Above −10°, 90; below −10°, 80; below −30°, 75
★ Maintain level to ½ inch below fill plug hole
CAPACITY 4 pints
DRAIN and REFILL
C 1963
32 1962
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK .... Gallons

All models 23

TIRES .... Pressure Front Rear

8.20-15 .... 24 24
Rotate tires, Method A, then balance wheels
5 1963 8 1962



▲ Prepacked bearing
● Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	30	20W-40, 10W-30
Above +10°	20W	10W-30
Above −10°	10W	10W-30, 5W-20
Below −10°	5W*	5W-20

* 1963, 5W-20
CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Distributor Shaft (oil cup) .... MO ★
Wick under rotor .... Sparingly MO
1962 12 1963 TY

Fuel Filter .... Replace 16

Manifold Heat Control Valve Shaft .... MH ★

TRANSMISSION, Automatic .. AF

Check level, engine idling and thoroughly warm, NEUTRAL position .... ★
To overcome difficult starting below −10°, replace $1\frac{1}{2}$ pints fluid with kerosine. Do not dilute more than once during any one season

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	9

DRAIN and REFILL
Remove 1 converter plug, transmission plug and parking sprag cavity plug; also, remove oil pan on 1963 without transmission plug
1963 Regular drain not recommended
Severe service drain every 32,000 miles; extremely severe service every 10,000 miles
Replace transmission filter at time of drain
1962 32

Front Wheel Bearings .... WB
Inspect 16
1963, clean and repack C
1962, clean and repack 32
Tighten front wheel adjusting nut to 90 in. lb., position lock nut over adjusting nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key
1963, final adjustment should be 0, no preload to .003" end play

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 1", engine running, the need for service is indicated
Two adjustment cams are provided on each backing plate. To tighten, turn both front brake cams and rear brake front cam in direction of forward wheel rotation. Tighten rear brake rear cam in reverse direction
1962: Adjust the brakes as follows:

1. Turn one adjustment cam until heavy drag is felt when wheel is turned
2. Slowly back off cam until no drag is felt
3. Repeat steps 1 and 2 for other adjustment cam
4. Repeat steps 1, 2 and 3 for each brake

1963: Brakes are self-adjusting. Adjustment is not normally required
Bleeding sequence: RR, LR, RF, LF When bleeding front brakes, bleed lower cylinder first

KEY TO INTERVALS

★ 1963, Twice yearly
1962, Every 4,000 miles
5 Every 5,000 miles
8 Every 8,000 miles
12 Every 12,000 miles
16 Every 16,000 miles
32 Every 32,000 miles
OC Every crankcase oil change
TY Twice yearly
C Conditional service
1963, drain and refill differential for below −10° requirements
1963, clean and repack front wheel bearings if wheel is removed for service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant
MoPar Part No. 2298947
CC Carburetor Cleaner
HB Manifold Heat Control Valve Solvent
MoPar Hi-Temp Brake Fluid
MH Manifold Heat Control Valve Solvent
MoPar Part No. 1879318
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
Meeting Specification MIL-L-2105B
PS Power Steering Fluid
MoPar Part No. 2084329
UJ Universal Joint Grease
WB Wheel Bearing Grease

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

IMPERIAL

1964 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	27H	70

COMPRESSION PRESSURE

(psi at cranking speed, throttle open)	min.	max.
All	130	165*

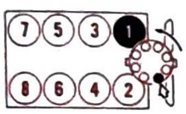
* Maximum variation between cylinders, 25 psi

SPARK PLUGS
Champion J-12Y
Gap: .035"
Torque: 30 ft. lb.

IGNITION POINTS
Chrysler
Gap: .014"-.019"
Dwell angle: 28°-33°

CONDENSER
Chrysler
Capacity: .25-.285 mfd

Cylinder Numbering Sequence

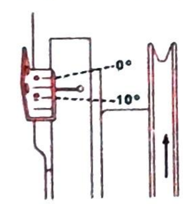


Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect vacuum line at distributor
5. Set idle speed to 500 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 10°

FUEL PUMP
Carter model M-3672S
Pressure: 3½-5 lb. at 500 rpm
Volume: 1 quart in 60 seconds at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Auto. Trans.
CARTER 4-bbl. AFB 3644S	1-2	2 rich

ENGINE IDLE SPEED
500 rpm in NEUTRAL with headlights on high beam
Air Cond. 500 rpm in DRIVE with unit turned ON with headlights on high beam

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	17	16

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

[★] **Oil Filter** (under car) .... Replace
Add extra quart oil

[★] **Battery** .... Check and fill
Caution: Do not ground positive terminal

[★] **Power Steering Reservoir** .... PS
Fill to base of filler neck when cold, halfway when hot

Crankcase Dipstick .... Check level

[★] **Oil Fill Cap** .... Wash and oil 30 MO
Service more frequently under dusty conditions. With closed PCV system, sealed cap, no service

[★] **Carburetor Choke Shaft** .... Clean CC

Air Cleaner Element .... Service
[★] Dry type .... Clean
[2Y] Dry type .... Replace

[★] **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir

[★] **PCV System Valve** .... Check
Replace valve if clogged; also clean hose and carburetor, if passages are clogged
Service more frequently under severe service

Front Suspension and Steering Linkage .... (8 plugs) BJ
[★] Inspect seal; if damaged, replacement is necessary. After replacing seal, relubricate
[32] Relubricate using special adapter. Fill until grease flows from upper ball joint bleed holes or lower joint seal lower lip. Do not rupture seals. Reinstall plug

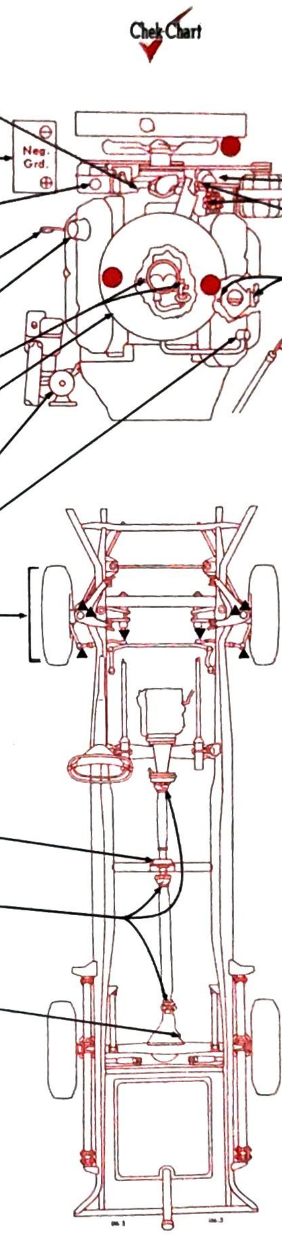
[C] **Universal Joint Spline** .... MP
Above −10°, 90; below −10°, 80
Disassemble, fill half-full

Universal Joints .... Grade 0 UJ
[★] Inspect for leaks, replace seals if necessary
Severe service, inspect every 4,000 miles or 2 months
[32] Repack if used under severe service

DIFFERENTIAL .... MP*
Above −10°, 90; below −10°, 80; below −30°, 75
[★] Maintain level ½ inch below fill plug hole (axle hoist); bottom of fill plug hole (frame hoist)
Severe service, check level every 4,000 miles or 2 months
CAPACITY 4 pints
DRAIN and REFILL
[C] Normal service [32] Severe service
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK .... Gallons
All models 23

TIRES .... Pressure Front Rear
8.20-15 .... 24 24
[5] Rotate tires, Method A, then balance wheels



▲ Prepacked bearing
● Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	30	10W-30
Above −10°	10W	10W-30
Below −10°	5W	5W-20

CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Fuel Filter .... Replace [16]

Distributor Shaft (oil cup) .... MO [★]
Wick under rotor .... Sparingly MO [★]

Manifold Heat Control Valve Shaft .... MH [★]

TRANSMISSION, Automatic .... AF
Check level, engine idling and thoroughly warm, NEUTRAL position .... [★]
Severe service, check level every 4,000 miles or 2 months
To overcome difficult starting below −10°, replace 1½ pints fluid with kerosine. Do not dilute more than once during any one season

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	9

DRAIN and REFILL
Remove 1 converter plug and parking sprag cavity plug; also remove oil pan
Regular drain not recommended
Severe service, drain every 32,000 miles; extremely severe service, every 10,000 miles
Replace transmission filter at time of drain

Front Wheel Bearings .... WB
Inspect .... [20]
Severe service, inspect every 10,000 miles
Repack .... [C]
Tighten front wheel adjusting nut to 90 in. lb., position lock nut over adjusting nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key. Final adjustment should be 0 (no preload) to .003" end play

BRAKE ADJUSTMENT

Brakes are self-adjusting. No adjustment normally required
Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

[★] Twice yearly
[5] Every 5,000 miles
[16] Every 16,000 miles or yearly
[20] Every 20,000 miles or 2 years
[32] Every 32,000 miles
[2Y] Every 2 years or 32,000 miles
[C] Conditional service
Lubricate universal joint spline when repacking joints
Drain and refill differential for below −10° requirements
Repack front wheel bearings as required or at brake overhaul

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

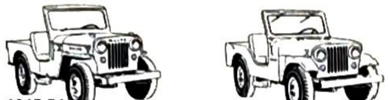
KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant, MoPar Part No. 2298947
CC Carburetor Cleaner
HB Hydraulic Brake Fluid, Heavy-Duty, MoPar Hi-Temp Brake Fluid
MH Manifold Heat Control Valve Solvent, MoPar Part No. 1879318
MO Motor Oil
MP* Multi-Purpose Gear Lubricant, Meeting Specification MIL-L-2105B
PS Power Steering Fluid, MoPar Part No. 2084329
UJ Universal Joint Grease
WB Wheel Bearing Grease

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

'Jeep' UNIVERSAL 4

1945-64 All Models



1945-54 1955-64

HOOD RELEASE: Both sides

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1945-57	1 (6-volt)	100
1958 early	1 (6-volt)	105
1958 late, 1959-64	24H	50

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi

L-head 90-110
F-head 120-130
Variations should not exceed 10 psi

SPARK PLUGS

Autolite A7; Champion J-8
Gap: .030"
Torque: 25-33 ft. lb.

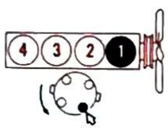
IGNITION POINTS

Autolite
Gap: .020"
Dwell angle: 42°

CONDENSER

Autolite
Capacity: CJ-2A, -3A, .18-.26 mfd
CJ-3B, -5, -6, .25-.28 mfd

Cylinder Numbering Sequence

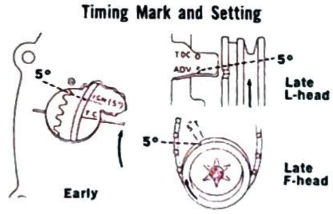


Firing Order: 1, 3, 4, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at flywheel or crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
5° (On crankshaft damper or IGN mark on flywheel)

FUEL PUMP

AC mechanical, various models
Pressure: CJ-2A, 4½ lb. at 1800 rpm
CJ-3A, -3B, -5, -6, 2½-3¾ lb. at 1800 rpm
Volume: 1 pint in 30 seconds or less at idle speed

CARBURETOR ADJUSTMENT

CARTER	Idle Mixture (initial turns)
1-bbl. WO	1¼
1-bbl. YF	¾-1¾

ENGINE IDLE SPEED

600 rpm

VALVE CLEARANCES

(engine cold)
L-head: Intake .016"; exhaust .016"
F-head: Intake .018"; exhaust .016"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	12	11

Cooling system pressure, 7 pounds

Governor .... Crankcase grade MO
★ With level plug, fill to plug hole
Without level plug, fill with 2 ounces
2 DRAIN and REFILL

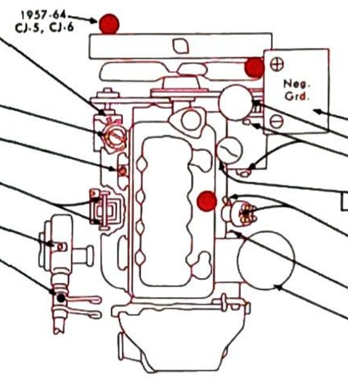
TY **Fuel Filter** .... Clean screen

6 **PCV System Valve** CC
Remove, clean valve and hose

★ **Manifold Heat Control Valve Shaft** .... PO
L-head engine

★ **Steering Gear** (plug) .... 80 MP

★ **Remote Control Gearshift** CL
Some early models



CRANKCASE .... "MM" MO

Severe driving, "MS"

Above +32°	30	10W-30
Above +10°	20,20W	10W-30,10W-20
Above −10°	10W	10W-30,10W-20
Below −10°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill ★
Oil Filter .... Replace, add extra quart oil 6
Generator (2 oil cups) .... Crankcase grade MO ★
Lubricate sparingly. Alternator, no lubrication
Oil Fill Cap
Crankcase Dipstick .... Check level
Combined with oil fill cap
Distributor Shaft (oil cup). Crankcase grade MO ★
Wick under rotor..... Crankcase grade MO ★
Lubricate shaft and wick sparingly
Starter (covered oil hole) .... MO ★
Some 1950 and earlier
Air Cleaner Element .... Service
Oil bath... Wash & fill, crankcase grade MO 2

★ **Front Suspension and Steering Linkage** ...... (7 to 13 fittings) CL

★ **Brake Master Cylinder** (cap) (thru floor) ..... HB
Fill to ½ inch below top of fill hole

★ **Clutch and Brake Pedals** CL

TRANSMISSION and TRANSFER CASE .... MP

Above +32°, 90; below +32°, 80
★ Maintain level to fill plug hole
Transmission, some models, plug on right side
CAPACITY Transmission: 3-speed 3 pints; 4-speed 6¾ pints. Transfer Case, 3½ pints
12 DRAIN and REFILL
Transfer Case, drain and fill thru separate plug holes

12 **Hand Brake Cable** .... Coat GG
12 **Speedometer Cable** .... Coat GG
C **Power Take-Off Universal Joint** ..... Repack UJ
★ **Spring Bolts** CL
Some, no lubrication

Rear Wheel Bearings
★ Fittings .... WB
Apply sparingly until lubricant appears at vent hole above fitting
6 Without fittings .... Repack WB

REAR DIFFERENTIAL .... 80 MP*

★ Maintain level to fill plug hole
CAPACITY 2½ pints
12 DRAIN and REFILL
POWR-LOK IDENTIFICATION (Front and Rear): Metal tag attached to housing stamped with letter "T" or "Use Limited-Slip Diff. Lube only"

★ **Spring Shackles** CL
Some, no lubrication
C **Power Take-Off Universal Joint** ..... Repack UJ
Power Take-Off and Belt Pulley Housing .. 80 MP
★ Fill each unit to plug level
3H Drain and refill thru separate plug holes

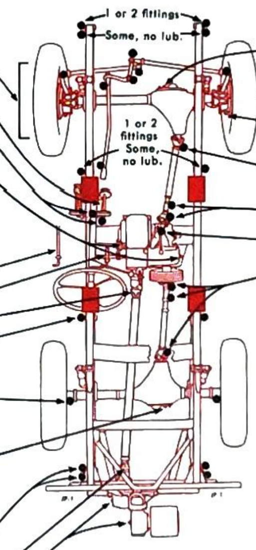
GAS TANK .... Gallons

All models 10½

TIRES .... Pressure

	Front	Rear
6.00-16	26	28
7.00-15	20	24
7.60-15	27	27
6.50-16, 7.00-15, 6 ply	27	27
6.70-15, 6 ply	24	32
7.00-16, 6 ply	30	45
9.00-13	25	25

TY Rotate tires, Method B, then balance wheels



Position for lift adapter
Lubrication fitting
Cooling system drain

FRONT DIFFERENTIAL ... 80 MP*

Maintain level to fill plug hole .... ★
CAPACITY 2½ pints
DRAIN and REFILL 12

Front Wheel Bearings .... Repack WB 6
Front Axle Universal Joints (plug) .... UJ
Maintain level to fill plug hole .... ★
Repack .... UJ 12
Universal Joint .... UJ ★
Use low pressure
Universal and Slip Joints .... UJ ★
Use low pressure
Transfer Case Lever Shaft .... CL ★
Universals and Slip Joints .... UJ ★
Use low pressure

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated

Two adjustment cams are provided on each backing plate

Adjust the brakes as follows:

1. Turn adjustment cam until drum cannot be turned by hand
2. Back off adjustment cam until drum just turns freely without drag
3. Repeat steps 1 and 2 for other adjustment cam
4. Repeat procedure at each wheel

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ **Every 1,000 miles**
Field work: Daily
2 **Every 2,000 miles**
Field or industrial work: Every 50 hours
6 **Every 6,000 miles**
Field or industrial work: Every 300 hours, except replace oil filter every 150 hours
12 **Every 12,000 miles or yearly**
Field or industrial work: Every 300 hours
TY **Twice yearly**
3H **Every 300 hours**
C **Conditional service**
Repack power take-off universal joints once a year, if belt pulley is used frequently for continuous operation

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CC Carburetor Cleaner	HB Hydraulic Brake Fluid, Heavy-Duty	PO Penetrating Oil	
CL Chassis Lubricant	MO Motor Oil	UJ Universal Joint Grease	
GG Graphite Grease	MP* Multi-Purpose Gear Lubricant Differentials: MIL-L-2105B	WB Wheel Bearing Grease	

* For Powr-Lok differential, use Multi-Purpose Gear Lubricant, 'Jeep' Part No. 94557

'Jeep' STATION WAGON 6

1962-64 6-230 4x2 including Utility Wagon, Utility Delivery

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24H	50

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi

All 145-155

Variations should not exceed 15 psi

SPARK PLUGS

Champion L-12Y
Gap: .030"
Torque: 28-30 ft. lb.

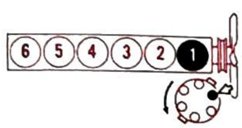
IGNITION POINTS

Autolite
Gap: .020"
Dwell angle: 38°

CONDENSER

Autolite
Capacity: .25-.28 mfd

Cylinder Numbering Sequence

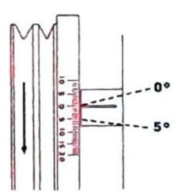


Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect vacuum line at carburetor if equipped with vacuum spark advance and tape manifold opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 5°

FUEL PUMP

Carter MP-3454S
Pressure: 3½-5½ lb. at 1800 rpm
Volume: 1 pint in 30 seconds or less at idle speed

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
HOLLEY 2300	½

ENGINE IDLE SPEED

590-600 rpm

VALVE CLEARANCES

(engine cold, not running)

Prior to engine Serial Nos. TW60C16750, SW60C-10484: Intake .010"; exhaust .012"
After Nos. listed: Intake .008"; exhaust .008"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	12	11

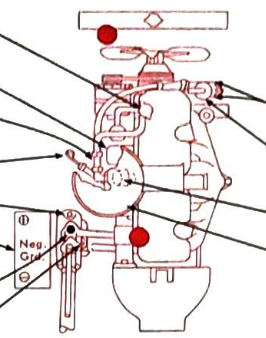
Cooling system pressure, 13 pounds

CRANKCASE .... "MM" MO

Severe driving, "MS"

Above +32°	30	10W-30
Above +10°	20,20W	10W-30,10W-20
Above −10°	10W	10W-30,10W-20
Below −10°	5W	5W-20

CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4



6 Oil Fill Cap Screen .... Wash
Inside valve cover, below fill cap

6 Oil Filter .... Replace, add extra quart oil

6 PCV System Valve CC
Remove, clean valve and hose

Crankcase Dipstick .... Check level

★ Steering Gear (plug) .... 80 MP

★ Battery .... Test and fill
Early models, battery positioned with terminals toward engine

★ Remote Control Gearshift CL

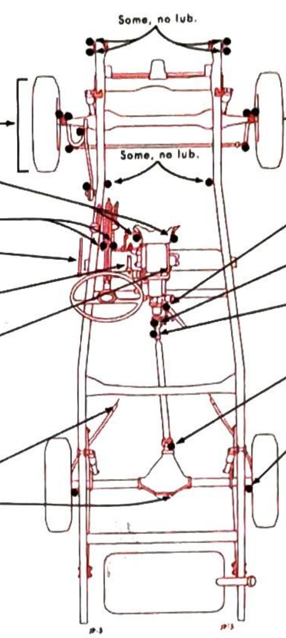
★ Brake Master Cylinder (cap) .... HB
Fill to ½ inch below top of fill hole

Distributor Shaft (oil cup). Crankcase grade MO ★
Wick under rotor ..... Crankcase grade MO ★
Lubricate shaft and wick sparingly

Fuel Filter .... Clean screen TY

Crankcase Breather .... Wash and oil MO 6
Clean screen inside breather pipe

Air Cleaner Element .... Service
Oil bath .... Wash and fill MO 6
Crankcase grade



★ Front Suspension and Steering Linkage ...... (8 to 14 fittings) CL

★ Clutch Release Shaft .... Sparingly CL
On some models

★ Clutch and Brake Pedals CL

12 Transmission Overdrive Cable .... Coat GG
Remove cable from conduit

12 Speedometer Cable .... Coat GG
Remove cable from conduit

TRANSMISSION .... MP

Above +32°, 90; below +32°, 80
★ Maintain level to fill plug hole
CAPACITY 2½ pints. Add ½ pint thru plug hole at rear of housing extension to lubricate rear bearing. With overdrive, 3½ pints
12 DRAIN and REFILL
Overdrive, drain and fill thru separate plug holes

12 Hand Brake Cables .... Coat GG

DIFFERENTIAL .... 80 MP*

★ Maintain level to fill plug hole
CAPACITY 2 pints
12 DRAIN and REFILL
POWR-LOK IDENTIFICATION:
Metal tag attached to housing stamped with letter "T" or "Use Limited-Slip Diff. Lube only"

Front Wheel Bearings .... Repack WB 12

Hand Brake Equalizer Arm .... CL ★
Some, no lubrication

Universal Joint .... UJ ★
Use low pressure

Universal Joint Spline .... UJ ★
Some, no lubrication

Universal Joint .... UJ ★
Use low pressure

Rear Wheel Bearings .... WB ★
Apply sparingly until lubricant appears at vent hole above fitting

GAS TANK .... Gallons

All models 15

TIRES

	Pressure Front	Rear
6.70-15	27	27
6.70-15 Captive-Air	24*	24*
6.70-15, 6 ply	24	32
7.60-15	27	27
8.20-15	24	24

* Outer chamber pressure shown; inner chamber pressure, 28. If vehicle is loaded to maximum capacity, tires should be inflated outer, 30, inner, 34

TY Rotate tires, Method B, then balance wheels
Captive-Air tires, Method C

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated

Two adjustment cams are provided on each backing plate

Adjust the brakes as follows:
1. Turn adjustment cam until drum cannot be turned by hand
2. Back off adjustment cam until drum just turns freely without drag
3. Repeat steps 1 and 2 for other adjustment cam
4. Repeat procedure at each wheel

Bleeding sequence: RR, LR, RF, LF

● Lubrication fitting
● Cooling system drain

KEY TO INTERVALS

★ Every 1,000 miles
6 Every 6,000 miles
12 Every 12,000 miles or yearly
TY Twice yearly

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CC	Carburetor Cleaner	HB	Hydraulic Brake Fluid, Heavy-Duty	MP*	Multi-Purpose Gear Lubricant, Differential: MIL-L-2105B
CL	Chassis Lubricant	MO	Motor Oil	UJ	Universal Joint Grease
GG	Graphite Grease			WB	Wheel Bearing Grease

* For Powr-Lok differential, use Multi-Purpose Gear Lubricant, 'Jeep' Part No. 94557

'Jeep' WAGONEER 6

1963-64 Series J-100
Station Wagon, Panel Delivery

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24H	50, 60, 70

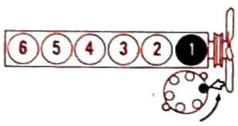
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 145-155
Variations should not exceed 15 psi

SPARK PLUGS
Champion L-12Y
Gap: .030"
Torque: 28-30 ft. lb.

IGNITION POINTS
Autolite
Gap: .020"
Dwell angle: 38°

CONDENSER
Autolite
Capacity: .25-.28 mfd

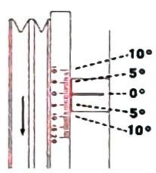
Cylinder Numbering Sequence



Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line at carburetor and tape manifold opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 5°

FUEL PUMP
Carter model M-3561S
Pressure: 3½-5½ lb. at 1800 rpm
Volume: 1 pint in 30 seconds or less at idle speed

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
HOLLEY 2300	½	index	index

ENGINE IDLE SPEED
590-600 rpm

VALVE CLEARANCES
(engine cold, not running)
Intake .008"; exhaust .008"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	12	11

Cooling system pressure, 13 pounds

★ **Oil Filter** .... Replace, add extra quart oil

★ **Power Steering Reservoir** .... AF
Fill to base of filler neck

★ **PCV System Valve** CC
Remove and clean valve and hose

Crankcase Dipstick .... Check level

Air Cleaner Element .... Service
★ Oil bath .... Wash and fill MO
Crankcase grade
★ Dry type ...... Wash in water and detergent
30 Dry type .... Replace

★ **Steering Gear** (plug) .... 80 MP

★ **Brake and Clutch Fluid Reservoirs** (plug or cap) .... HB
Fill to ½ inch below top of fill hole

C **Remote Control Gearshift** CL

30 **Steering Bell Crank** .... (fitting) CL

30 **Independent Suspension Center Univ. Joint** .. UJ
4WD models only. Loosen inner end of boot and pull back to reach fitting. Reassemble boot

★ **King Pins** .... (4 fittings) CL
2WD solid front axle models only

30 **Front Suspension Ball Joints** .... (2 fittings) BJ
Independent front suspension models only

30 **Steering Linkage** .... (6 or 7 fittings) LL

12 **Transmission Overdrive Cable** .... Coat GG
Remove cable from conduit. On some 2WD models

12 **Speedometer Cable** .... Coat GG
Remove cable from conduit

TRANSMISSION and TRANSFER CASE .... MP
Above +32°, 90; below +32°, 80
★ Maintain level to fill plug hole; 2WD models, right side
CAPACITY 2WD models, 2¾ pints, with overdrive, 3 pints; 4WD models, 2½ pints. Transfer case, 3¼ pints
30 DRAIN and REFILL
Transfer case and overdrive, drain and fill thru separate plug holes. Fill overdrive first, then transmission. 2WD models, without overdrive, add ½ pint thru plug hole in extension housing

30 **Rear Wheel Bearings** .... WB
Apply sparingly until lubricant appears at vent hole above fitting

REAR DIFFERENTIAL .... 80 MP*
★ Maintain level to fill plug hole
CAPACITY 3 pints
30 DRAIN and REFILL
POWR-LOK IDENTIFICATION:
Metal tag attached to rear cover stamped with "Use Limited-Slip Diff. Lube only"

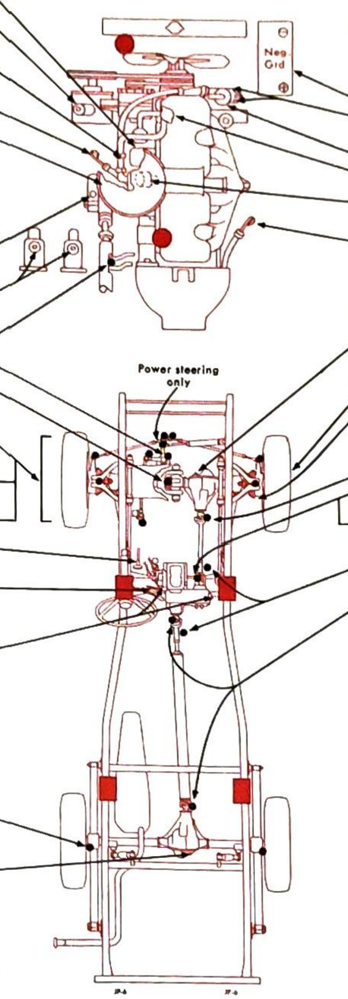
GAS TANK .... Gallons
All models 20

TIRES .... Pressure	Front	Rear
6.70-15	27*	27*
7.00-15	27	27
7.10-15	26*	26*
7.60-15	27	27
9.00-13	25	25

* Captive-Air: Outer chamber pressure, 24; inner chamber pressure, 28. If vehicle is loaded to maximum capacity, tires should be inflated, outer, 30; inner, 34

★ Rotate tires, Method B, then balance wheels
Captive-Air tires, Method C

Chek-Chart



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MM" MO
Severe operation, "MS"

Above +32°	30	10W-30
Above +10°	20,20W	10W-30,10W-20
Above −10°	10W	10W-30,10W-20
Below −10°	5W	5W-20

CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill ★

Distributor Reservoir (plug) .... LM 30
Wick under rotor .... Sparingly MO C

Fuel Filter .... Clean screen TY

Oil Fill Cap Screen .... Wash ★
Inside valve cover, below fill cap

Crankcase Breather .... Wash and oil MO ★
Clean screen inside breather pipe

TRANSMISSION, Automatic .. AF
Check level, engine idling and thoroughly warm, NEUTRAL position ★

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	8½

DRAIN and REFILL 30
Remove 1 converter plug and disconnect fill pipe

FRONT DIFFERENTIAL .. 80 MP*
On 4WD models. Maintain level to fill plug hole .. ★
CAPACITY 2½ pints
DRAIN and REFILL 30

Front Wheel Bearings .... Repack CL 30

Front Axle Universal Joints (plug) CL
Maintain level to fill plug hole .... ★
Repack .... CL 30
Not on 2WD solid front axle models

Universal Joint .... Use low pressure UJ 30

Universal Joint .... Use low pressure UJ 30
Double Cardan joint on some 4WD models, 2 fittings

Centering Section Cavity .... EP No. 1 LM 30
On models with Double Cardan joint. Depressed-type fitting; use special adapter

Universal Joint Splines .... Repack CL C
Some early 1963 models (fittings) ...... CL 30

Universal Joints .... Use low pressure UJ 30

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated

Two adjustment cams are provided on each backing plate

Adjust the brakes as follows:
1. Turn adjustment cam until drum cannot be turned by hand
2. Back off adjustment cam until drum just turns freely without drag
3. Repeat steps 1 and 2 for other adjustment cam
4. Repeat procedure at each wheel

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

For off-highway operation, reduce all lubrication and service intervals in accordance with severity of operation and amount of mud, water and dust encountered. Under extremely dusty conditions, service air cleaners daily

★ Every 6,000 miles
12 Every 12,000 miles
30 Every 30,000 miles
TY Twice yearly
C Conditional service
Lubricate remote control gearshift when hard to shift
Lubricate distributor wick under rotor when breaker points are replaced
Disassemble and repack universal joint splines when "spline grunt" is evident

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A, Suffix A
- **BJ** Suspension Lubricant 'Jeep' Part No. 934570
- **CL** Chassis Lubricant Front Axle Universal Joints and Wheel Bearings: MIL-G-10924 Universal Joint Splines: 'Jeep' Part No. 934190
- **CC** Carburetor Cleaner
- **GG** Graphite Grease
- **HB** Hydraulic Brake Fluid, Heavy-Duty
- **LL** Steering Linkage Lubricant 'Jeep' Part No. 934571
- **LM** Lithium Grease
- **MO** Motor Oil
- **MP*** Multi-Purpose Gear Lubricant Differentials: MIL-L-2105B
- **UJ** Universal Joint Grease 'Jeep' Part No. 934188
- **WB** Wheel Bearing Grease

* For Powr-Lok differential, use Multi-Purpose Gear Lubricant, 'Jeep' Part No. 94557

LINCOLN CONTINENTAL

1961-64 All Models

HOOD RELEASE: Inside

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	27F	80

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
All 160-200
Max. variation: 1961-63, 10 psi; 1964, 20 psi

SPARK PLUGS

Autolite BF42
Gap: .032"-.036"
Torque: 1961-63, 20 ft. lb.; 1964, 15-20 ft. lb.
Do not use gasket on tapered seat plugs

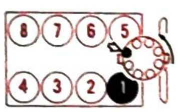
IGNITION POINTS

FoMoCo
Gap: 1961-63, .014"-.016"; 1964, .014"-.018"
Dwell angle: 26°-28½°

CONDENSER

FoMoCo
Capacity: .21-.25 mfd

Cylinder Numbering Sequence

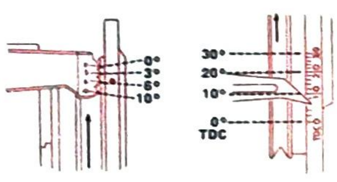


Firing Order: 1, 5, 4, 2, 6, 3, 7, 8

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



1961-63 1964

Timing Setting (Before Top Dead Center):
1961, 6° (Allowable range, 2°-10°)
1962, 8° (Allowable range, 2°-13°)
1963, 4° (Allowable range, 2°-4°)
1964, 6°*

* If engine requirements or substandard fuels dictate, timing may be retarded from recommended setting to eliminate detonation but not to exceed 2° BTDC

FUEL PUMP

AC model 4441; Carter model M-3175SA
Pressure: 4½-6½ lb. at 500 rpm
Volume: 1 pint in 20 seconds at 500 rpm

CARBURETOR ADJUSTMENT

CARTER	Idle Mixture (initial turns)	Choke (notches) Auto. Trans.
2-bbl. ABD	1-1½	index*
4-bbl.	1½	1 rich

* 1962-63, 1 rich

ENGINE IDLE SPEED

450-475 rpm in DRIVE

Air Cond.: 1961, early 1962, set idle to 450-475 rpm in DRIVE with unit turned OFF, then set idle to 900 rpm with idle compensator held ON

Late 1962-64, set idle to 450-475 rpm in DRIVE with unit turned ON and in operation for 20 minutes

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts With Heater
1961-62 25
1963-64 21
Cooling system pressure, 12-15 pounds

[12] **Fuel Filter** .... Replace
Replace at first 6,000 miles

[★] **Power Steering Reservoir** .... AF
Fill to "F" mark on dipstick

Power Steering Filter .... Replace
[24] 1961-62
[36] 1963-64

[OC] **Oil Filter** (under car) .... Replace

[12] **Distributor Shaft** (oil cup) .. Sparingly 10W MO
[12] Wick under rotor ...... Sparingly 10W MO

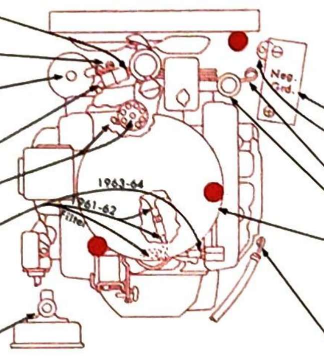
PCV System .... Service
[★] Valve .... Clean
All parts, including filter .... Clean
[24] 1961-62
[12] 1963-64

[★] **Brake Master Cylinder** (cap) .... HB
Fill to ¼ inch below top of cylinder

CRANKCASE .... "MS" MO

Above +90°	30	10W-30
Above +20°	20,20W	10W-30
Above −10°	10W	10W-30
Below −10°	...	5W-20

CAPACITY (includes oil filter) 6 quarts
DRAIN and REFILL
See Service Instructions, page 4



Battery .... Test and fill [★]

Automatic Transmission Filter .... Replace [12]
On some 1961 models with external filter

Crankcase Dipstick .... Check level

Oil Fill Cap .... Replace [12]
Fill crankcase slowly to prevent overflow. With closed PCV system, sealed cap, no service

Air Cleaner Element .... Service
Dry type .... Clean [★]
Dry type .... Replace
1961-63 .... [30]
1964 .... [36]

TRANSMISSION, Automatic .. FA
Check level, engine idling, PARK position ...... [★]

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	10½

DRAIN and REFILL Not recommended
Remove 2 converter plugs. Early 1961, also remove transmission plug. All others, remove oil pan; first remove reinforcing cross member at rear of pan
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

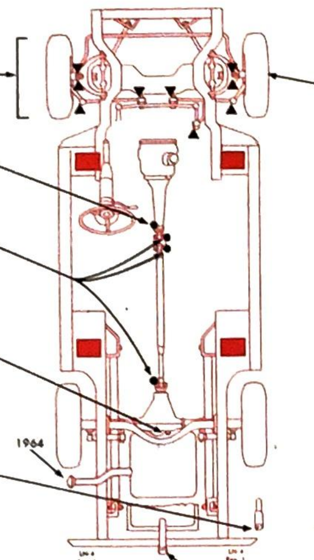
Front Suspension and Steering Linkage .... (9 plugs) LM
Relubricate using special adapter. Reinstall plug
[30] 1961-63
[36] 1964

Centering Yoke Socket and Ball .... LG
Special fitting, use special adapter
[30] 1961-63
[36] 1964

Universal Joints .... UJ
[★] 1961-62 (fitting)
Use low pressure
[30] 1963 (plug)
[36] 1964 (plug)

DIFFERENTIAL .... 90 HP*
[★] Maintain level to fill plug hole
CAPACITY 4¾ pints
DRAIN and REFILL Not recommended
DIRECTED POWER IDENTIFICATION:
Metal tag attached to differential rear cover

[C] **Electric-Hydraulic Mechanism**
On convertibles. Located behind trim pad in luggage compartment. Loosen fill plug, run engine at fast idle, raise and lower top three times. With top down and deck lid open, fill to bottom of fill plug hole
1961-63 .... HB
1964 .... AF



Front Wheel Bearings .... Repack WB
1961-62 .... [24]
1963-64 .... [30]

Initial torque, 15-20 ft. lb.; then with lock-nut on spindle nut and castellation aligned with hole in spindle, back off both nuts together, one castellation and install cotter pin

GAS TANK .... Gallons
1961-63 21
1964 24

TIRES .... Pressure	Front	Rear
9.00-14, 9.50-14, 9.15-15	24*	24*

* For considerable high-speed driving, heavy loads, or maximum fuel economy, add 4 to 6 pounds

[6] Rotate tires, Method A, then balance wheels, if required

Position for lift adapter
▲ Prepacked bearing
● Lubrication fitting
Cooling system drain

BRAKE ADJUSTMENT

Self-adjusting brakes are used. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, adjust the brakes as follows:
Note: If frame contact hoist is used, disconnect parking brake cable

1. Expand shoes until a slight drag is felt when turning drums
2. Remove brake drums
3. Hold adjusting lever away from adjusting screw, and back off adjusting screw ¾ turn
4. Reinstall drums and wheels
5. Operate car in reverse and make 5 or 6 brake applications to bring shoes into proper adjustment
6. Reconnect and adjust parking brake cable

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

[★] Every 6,000 miles or 6 months
[6] Every 6,000 miles
[12] Every 12,000 miles or 12 months
[24] Every 24,000 miles or 2 years
[30] Every 30,000 miles or 2 years
[36] Every 36,000 miles or 3 years
[OC] Every crankcase oil change
[C] Conditional service
Check electric-hydraulic mechanism fluid level as required

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
FA Ford Automatic Transmission Fluid
Ford Specification No. M2C33-D
HB Hydraulic Brake Fluid, Heavy-Duty
Ford Specification No. M-3833-D
HP* Hypoid Gear Lubricant
Ford Specification No. M-2C16-B
LG Long Life Chassis Grease
Ford Specification No. M-1C75-A
LM Lithium Grease, with Moly
Ford Specification No. M-1C47
MO Motor Oil
UJ Universal Joint Grease
Ford Specification No. M-1C57
WB Wheel Bearing Grease
Ford Specification No. M1C60-A

* Directed Power, use same lubricant as standard axle

MERCURY COMET

1960-62 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22NF	40
	24F	55

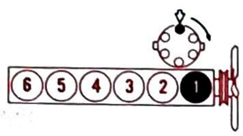
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 150-190
Maximum variation between cylinders, 10 psi

SPARK PLUGS
Autolite BF82
Gap: .032"-.036"
Torque: 20 ft. lb.
Do not use gasket with tapered seat plugs

IGNITION POINTS
FoMoCo
Gap: .024"-.026"
Dwell angle: 35°-38°

CONDENSER
FoMoCo
Capacity: .21-.25 mfd

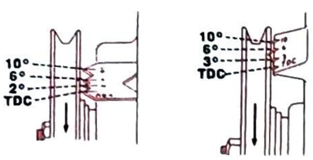
Cylinder Numbering Sequence



Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



1960 1961-62

Timing Setting (Before Top Dead Center):
Manual Trans. 1960, 2°; 1961-62, 4° (Allowable range, 2°-9°)
Auto. Trans. 10° (Allowable range, 2°-15°)

FUEL PUMP
AC mechanical
Pressure: 3½-5½ lb. at 500 rpm
Volume: 1 pint in 30 seconds at 500 rpm

CARBURETOR ADJUSTMENT

HOLLEY	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
1-bbl. 1904	1-1½	manual	manual
1-bbl. 1908	1-1½	index	index
1-bbl. 1909	1-1½	index	index

ENGINE IDLE SPEED
1960-61: Manual Trans. 500-525 rpm
Auto. Trans. 475-500 rpm in DRIVE
1962: Manual Trans. 500-550*
Auto. Trans. 475-525 rpm**
With air conditioning, as listed above but with unit turned ON and in operation for 20 minutes
* With smog reduction, 550-600 rpm
** With smog reduction, 525-575 rpm

VALVE CLEARANCES
(engine hot and running)
Intake .016"; exhaust .016"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
1960-61	9½	8½
1962	9¾	8¾

Cooling system pressure: 1960, 12-15 pounds; 1961-62, 13-15 pounds

Oil Filter ....Replace
Add extra quart oil
4 1960-61
6 1962

12 **Distributor Shaft** (oil cup)...Sparingly 10W MO

Air Cleaner Element................Service
Dry type ....Clean
4 1960-61
6 1962
30 Dry type ....Replace

Crankcase Dipstick.............Check level

12 **Fuel Pump Sediment Bowl** 1960-61......Clean

Fuel Filter ....Replace
1961 models, right side forward of carburetor
8 1960-61
6 1962

6 **Steering Gear** (plug)...................SG
Turn wheels to right, remove fill plug and housing cover upper cap screw. Fill thru plug hole until lubricant comes out of cap screw hole. With power brakes, fill thru upper cap screw hole, with steering wheel centered

★ **Brake Master Cylinder** (cap)..............HB
Fill to ¼ inch below top of cylinder

★ **Front Suspension and Steering Linkage**.........(12 fittings) CL

★ **Clutch Equalizer Shaft**.....................CL
On 1960, some 1961

TRANSMISSION, Manual..80 EP
★ Maintain level to fill plug hole
CAPACITY 2½ pints
DRAIN and REFILL Not recommended

Universal Joint Spline 1960-61...Coat 1 oz. SS
Models with automatic transmission
16 1960 24 1961

Universal Joints ....Repack UJ
16 1960 24 1961 30 1962

DIFFERENTIAL .... 90 HP
★ Maintain level to fill plug hole
CAPACITY 2 pints, except 1962, 2½ pints
DRAIN and REFILL Not recommended

GAS TANK ....Gallons
All models 14

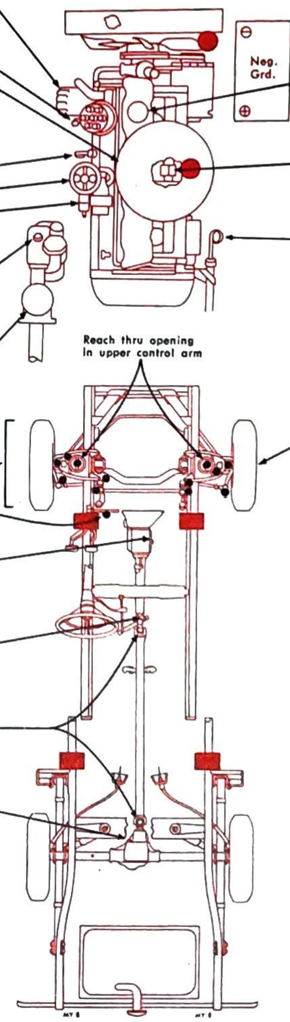
TIRES..........Pressure Front Rear

	Front	Rear
6.00-13, 6.50-13	24	24
6.50-13 station wagon	22*	26*

* With load, front 24; rear 30
All, for extensive high-speed driving or heavy loads, add 4 pounds

Rotate tires, Method A, then balance wheels if required
8 1960-61
12 1962

Chek-Chart



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE ...."MS" MO

Above +90°	30	10W-30
Above +20°	20,20W	10W-30
Above −10°	10W	10W-30
Below −10°	...	5W-20

CAPACITY 3½ quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery ....Test and fill ★

Oil Fill Cap..........Wash and oil 10W MO
With positive crankcase ventilation system, fill slowly to prevent overflow
1960-61 8
1962 6

PCV System Valve..................Clean
Disassemble and clean all parts; also, exhaust line
1960-61 8
1962 6

TRANSMISSION, Automatic..FA
Check level, engine idling, PARK position...... ★
CAPACITY, quarts Initial Refill Total Refill
All models 4 6¼
DRAIN and REFILL
1960 24
Remove 2 converter plugs and transmission plug
1961-62 Not recommended
Remove 2 converter plugs, disconnect fill pipe, then remove oil pan
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

Front Wheel Bearings............Repack WB 12
1961, initial torque, 11½-12½ ft. lb.; final adjustment, loosen ⅙ but not more than ⅓ turn
1962, initial torque, 15-20 ft. lb.; then with nut-lock on spindle nut and castellation aligned with hole in spindle, back off both nut and nut-lock together, one castellation and install cotter pin

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than halfway, the need for service is indicated

Adjust the brakes as follows:
1. If frame contact lift is used, disconnect parking brake at equalizer
2. Using suitable tool inserted into adjustment opening, turn star wheel adjuster until a slight drag is felt while turning wheel
3. Back off the adjustment until the drum turns freely without drag
4. Repeat procedure at each wheel
5. Reconnect parking brake cable and adjust

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ Every 1,000 miles or 30 days
4 Every 4,000 miles
6 Every 6,000 miles
8 Every 8,000 miles
12 Every 12,000 miles
16 Every 16,000 miles
24 Every 24,000 miles
30 Every 30,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CL Chassis Lubricant
EP Mild Extreme Pressure Gear Lub. Ford Specification No. M-568-D
FA Ford Automatic Transmission Fluid Ford Specification No. M2C33-D
HB Hydraulic Brake Fluid, Heavy-Duty
HP Hypoid Gear Lubricant Ford Specification No. M2C50-B
MO Motor Oil
MP Multi-Purpose Gear Lubricant
SG Steering Gear Lubricant Ford Specification No. ESW-M-1C87-A
SS Special Purpose Lubricant Ford Specification No. M1C-39
UJ Universal Joint Grease Ford Specification No. M1C57
WB Wheel Bearing Grease

MERCURY 6

1961 All Models; 1962 Monterey

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	29NF	55, 65
	27F	70

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
All 130-170
Allowable tolerance between cylinders, 10 psi

SPARK PLUGS

Autolite BTF6
Gap: .032"-.036"
Torque: 20 ft. lb.
Do not use gasket with tapered seat plugs

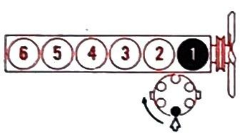
IGNITION POINTS

FoMoCo
Gap: .024"-.026"
Dwell angle: 35°-38°

CONDENSER

FoMoCo
Capacity: .21-.25 mfd

Cylinder Numbering Sequence

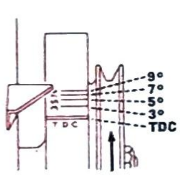


Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed to 475 rpm, transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
Manual Trans.: 1961, 4°; 1962, 6°
Auto. Trans.: 1961, 10°; 1962, 12°

FUEL PUMP

AC model: 4874 with electric wipers; 4872 with vacuum wipers
Pressure: 3½-5½ lb. at 500 rpm
Volume: 1 pint in 30 seconds at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
HOLLEY 1-bbl.	1½

ENGINE IDLE SPEED

Manual Trans. 500-525 rpm
Auto. Trans. 450-475 rpm in DRIVE
With air conditioning, as listed above but with unit turned ON and in operation for 20 minutes

VALVE CLEARANCES

Mechanical self-adjusters

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	16	15

Cooling system pressure, 12-15 pounds

Oil Fill Cap .... Wash and oil 10W **MO**
With positive crankcase ventilation system, fill slowly to prevent overflow
[8] 1961 [6] 1962

[★] **Power Steering Reservoir** .... **AF**
Fill to ¼ inch below top of reservoir

Crankcase Dipstick .... Check level

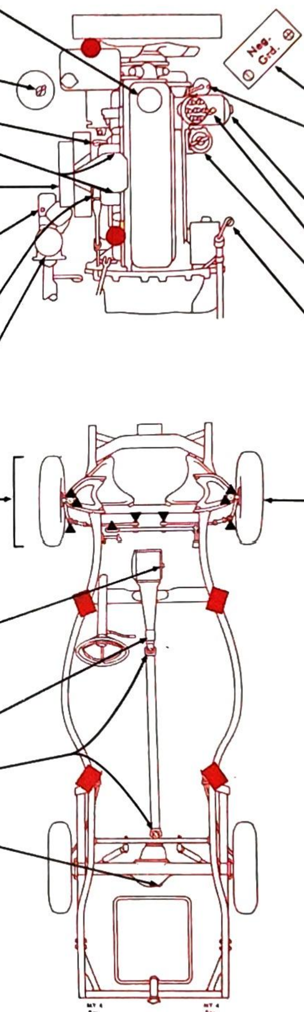
[★] **Manifold Heat Control Valve Shaft** .... **MH**
Remove air cleaner to lubricate

Air Cleaner Element .... Service
[★] Dry type .... Clean
[30] Dry type .... Replace

[6] **Steering Gear** (plug) .... **SG**
Turn wheels to left, remove fill plug and housing cover lower cap screw. Fill thru plug hole until lubricant comes out of cap screw hole. With power brakes, fill thru lower cap screw hole, with steering wheel centered

[★] **PCV System Valve** .... Clean
Some models only
Disassemble and clean all parts; also, exhaust line

[★] **Brake Master Cylinder** (cap) .... **HB**
Fill to ¼-½ inch below top of cylinder



[30] **Front Suspension and Steering Linkage** .... (9 plugs) **LM**
Relubricate using fitting. Reinstall plug

TRANSMISSION, Manual .. 80 EP

[★] Maintain level to fill plug hole
CAPACITY 3 pints; with overdrive, 4¼ pints
DRAIN and REFILL Not recommended
Overdrive, check level and drain thru separate plug hole. Fill slowly thru transmission

[30] **Universal Joint Spline** 1961 ..... Coat 1 oz. **SS**
On models with automatic transmission

[30] **Universal Joints** (plug) .... **UJ**
Relubricate using special adapter. Reinstall plug

DIFFERENTIAL .... 90 HP*

[★] Maintain level to fill plug hole
CAPACITY 5 pints
DRAIN and REFILL Not recommended
POWER TRANSFER IDENTIFICATION:
Metal tag stamped with letter "L" attached to left side of carrier housing

GAS TANK .... Gallons

1962 station wagon	21
All other models	20

TIRES .... Pressure

	Front	Rear
7.50-14, 8.00-14	24*	24*
8.00-14 station wagon	24*	28*

*For highway driving, add 4 pounds

Rotate tires, Method A, then balance wheels if required
[8] 1961 [12] 1962

Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO

Above +90°	30	10W-30
Above +20°	20,20W	10W-30
Above −10°	10W	10W-30
Below −10°	...	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill [★]

Fuel Filter .... Replace
Replace at first 4,000 miles
1961, left side forward .... [8]
1962 .... [30]

Oil Filter .... Replace, add extra quart oil [★]

Distributor Shaft (oil cup) .. Sparingly 10W **MO** [12]

Fuel Pump Sediment Bowl and Screen .... Clean [12]
1961 only

TRANSMISSION, Automatic .. FA

Check level, engine idling, PARK position .... [★]

CAPACITY, quarts	**Initial Refill**	**Total Refill**
All models	5	9

DRAIN and REFILL Not recommended
Remove 2 converter plugs and transmission oil pan
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

Front Wheel Bearings .... Repack **WB**
1961, initial torque, 11½-12½ ft. lb.; final adjustment, loosen ⅛ but not more than ⅓ turn
1962, initial torque, 12½ ft. lb., then with nut-lock on spindle nut and castellation aligned with hole in spindle, back off both nut and nut-lock together, one castellation and install cotter pin
1961 .... [12]
1962 .... [30]

BRAKE ADJUSTMENT

Self-adjusting brakes are used. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, adjust the brakes as follows:

Note: If frame contact hoist is used, disconnect parking brake cable

1. Expand shoes until a slight drag is felt when turning drums
2. Remove brake drums
3. Hold adjusting lever away from adjusting screw, and back off the adjusting screw ¾ of a turn
4. Reinstall drums and wheels
5. Operate car in reverse and make 5 or 6 brake applications to bring the shoes into proper adjustment
6. Reconnect parking brake cable and adjust

Bleeding sequence: RR, LR, RF, LF
1962 Power brakes: Master cylinder, RR, LR, RF, LF, master cylinder

KEY TO INTERVALS

[★] 1961, Every 4,000 miles or 4 months
1962, Every 6,000 miles or 6 months
[6] Every 6,000 miles or 6 months
[8] Every 8,000 miles or 8 months
[12] Every 12,000 miles or 12 months
[30] Every 30,000 miles or 2 years

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
EP Mild Extreme Pressure Gear Lub. Ford Specification No. M-568-D
FA Ford Automatic Transmission Fluid Ford Specification No. M2C33-D
HB Hydraulic Brake Fluid, Heavy-Duty
HP* Hypoid Gear Lubricant Ford Specification No. M2C50-B
LM Lithium Grease, with Moly Ford Specification No. M-1C47
MH Manifold Heat Control Valve Solvent FoMoCo Part No. COAA-19A501-A
MO Motor Oil
SG Steering Gear Lubricant Ford Specification No. ESW-M-1C87-A
SS Special Purpose Lubricant Ford Specification No. M1C-39
UJ Universal Joint Grease Ford Specification No. M1C57
WB Wheel Bearing Grease Ford Specification No. M1C60-A

* Power Transfer, use Ford Spec. No. M2C50-B and add 1 oz. of additive, Ford Spec. No. M2C58-A per pint of lubricant

MERCURY V-8

1961 All Models; 1962-63 Monterey
1964 Monterey, Montclair, Parklane

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
Manual Trans.	29NF	55
Auto. Trans.	29NF	65
	27F	70

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
292 engine 140-180
352, 390, 406, 427 engines 160-200
1964 390 4-bbl. engine 170-210
Max. variation: 1961-63, 10 psi; 1964, 20 psi

SPARK PLUGS

Autolite: 292 eng. BF82; 352, 390 engs. BF42; 390 Super and Police, 406, 427 engs. BF32
Gap: .032"-.036"
Torque: 1961-63, 20 ft. lb.; 1964, 15-20 ft. lb.

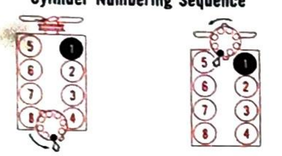
IGNITION POINTS

FoMoCo
Gap: Single points, .014"-.016"; dual points, each set, 1961-63, .018"-.022", 1964, .019"-.021"
Dwell angle: Single points, 26°-28½° except 1963 427 eng. 22°-24°; 1964 427 eng. dual points, total dwell, 33°-36°

CONDENSER

FoMoCo Capacity: .21-.25 mfd

Cylinder Numbering Sequence

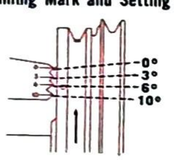


Firing Order: 292 engine 1, 5, 4, 8, 6, 3, 7, 2
352, 390, 406, 427 engines 1, 5, 4, 2, 6, 3, 7, 8

TIMING PROCEDURE

Follow procedure listed on Chart MY-10

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
1961: Manual Trans. 3°; Auto. Trans. 292 eng. 10°; 352, 390 engines 6° (All, range, 2°-10°)
1962: Manual Trans. 5°; Auto. Trans. 292 eng. 12°; 352, 390 engs. 8°; 406 eng. 8° (Min. 2°)
1963: 390 eng. 6° (Allowable range, 2°-11°); 390 Super eng. Manual Trans. 5° (Allowable range, 2°-10°), Auto. Trans. 8° (Allowable range, 2°-11°); 406, 427 engs. 8° (Allowable range, 2°-8°)
1964: 390 2-bbl. eng. 6°*; 390 4-bbl. eng. Manual Trans. 4°*, Auto. Trans. 6°*; 427 eng. 8°**

* For optimum performance and economy, timing may be advanced to a point just short of audible detonation under road test load but not to exceed 5° over normal setting. Do not retard initial advance beyond 2° BTDC

** If engine requirements or substandard fuels dictate, timing may be retarded from recommended setting to eliminate detonation but not to exceed 2° BTDC

FUEL PUMP

AC mechanical
Pressure: 1961-63, 292, 352, 390 engs. 4-6 lb.; 406, 427 engs. 5½-6½ lb.; 1964, 390, 427 engs. 4½-6½ lb.; at idle rpm
Volume: 1 pint in 20 seconds at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
FORD			
2-bbl.	1½	index	2 lean
4-bbl. 1961-63	1½	—	2 lean
1964 390 eng.	1-1½	1 rich*	1 rich*
HOLLEY			
2-bbl. (Primary)	1-1½	index	—
(Secondary)	¾-1¼	—	—
4-bbl.	1-1½	index	—

* 390 Police, 1 lean

ENGINE IDLE SPEED

Manual Trans.: 575-600 rpm*
Auto. Trans.: 1961-63, 450-475 rpm**; 1964, 475-500 rpm†; in DRIVE
With air conditioning, as listed above but with unit turned ON and in operation for 20 minutes
* 1963, 406, 427 engs. 700 rpm; 1964, 427 eng. 700-800 rpm
** 390 eng. 475-500 rpm † 390 Police, 550-575 rpm

VALVE CLEARANCES

(engine cold, not running)
292 engine: Intake .019"; exhaust .019"
(engine hot and running)
390 Police, 406, 427 engines
Intake .025"; exhaust .025"
352, 390 engines: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	20	19

Cooling system pressure, 12-15 pounds

Fuel Filter .... Replace
[8] 1961 right side under air cleaner
Replace at first 4,000 miles
[30] 1962
[36] 1963-64
406-, 427-cu. in. engines, right side under air cleaner. Every 6,000 miles

[★] **Power Steering Reservoir** .... AF
Fill to "F" mark on gage

[36] **Power Steering Filter** .... Replace
1963-64 only. Inside reservoir

[★] **Oil Filter** (under car) .... Replace
Add extra quart oil. 292-cu. in. engine, rear

Crankcase Dipstick .... Check level
292-cu. in. engine, right side

[12] **Fuel Pump Sediment Bowl & Screen** 1961 . Clean

[6] **Steering Gear** (plug) .... SG
Turn wheels to left, remove fill plug and housing cover lower cap screw. Fill thru plug hole until lubricant comes out of cap screw hole. With power brakes, fill thru lower cap screw hole, with steering wheel centered

[★] **Brake Master Cylinder** (cap) .... HB
Fill to ¼ inch below top of cylinder

Air Cleaner Element .... Service
[★] Dry type .... Clean
Dry type .... Replace
[30] 1961-63 [36] 1964

Front Suspension .... (4 or 6 plugs) LM
Lubricate using special adapter. Reinstall plug
[30] 1961-62 [36] 1963-64

Steering Linkage .... (4, 5 or 6 plugs) LM
Lubricate using special adapter. Reinstall plug
[30] 1961-62 [36] 1963-64

TRANSMISSION, Manual .. 80 EP

[★] Maintain level to fill plug hole
CAPACITY 3-speed 292-cu. in. engine, **3** pints; with overdrive, 4¼ pints. 352-, 390-, 406-, 427-cu. in. engines, 3½ pints. 4-speed, 3½ pints
DRAIN and REFILL Not recommended
Overdrive, check level and drain thru separate plug holes. Fill slowly thru transmission

[30] **Universal Joint Spline 1961** ...... Coat 1 oz. SS
On models with automatic transmission

Universal Joints (plug) .... UJ
Lubricate using special adapter. Reinstall plug
[30] 1961-62 [36] 1963-64

DIFFERENTIAL .... 90 HP*

[★] Maintain level to fill plug hole
CAPACITY 5 pints; with 427-cu. in. engine, 5½ pints
DRAIN and REFILL Not recommended
POWER TRANSFER IDENTIFICATION:
Metal tag stamped with letter "L" attached to left side of carrier housing

GAS TANK .... Gallons

1962-64 station wagon 21
All other models 20

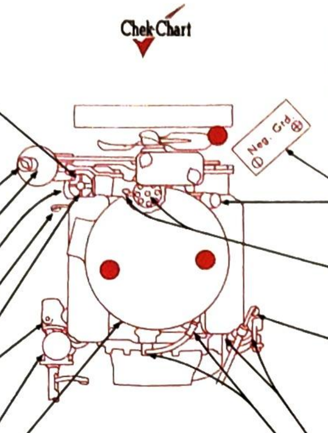
TIRES

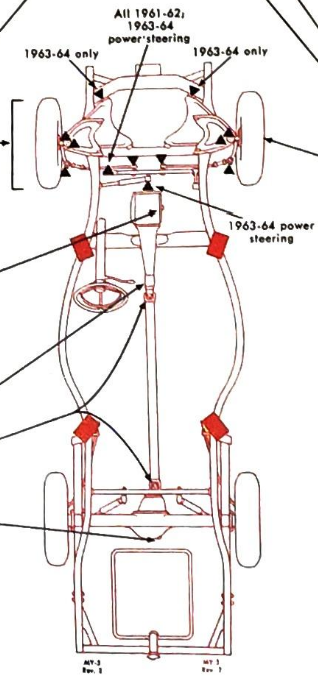
Pressure	Front	Rear
6.70-15, 7.10-15	24*	24*
7.50-14, 8.00-14, 8.50-14	24*	24*
Station wagon: 8.00-14, 8.50-14	24*	28*

* For highway driving, add 4 to 6 pounds

Rotate tires, Method A, then balance wheels if required
[8] 1961 [12] 1962 [6] 1963-64

Chek-Chart





Position for lift adapter
▲ Prepacked bearing
Cooling system drain

CRANKCASE .... "MS" MO

Above +90°	30	10W-30
Above +20°	20,20W	10W-30
Above −10°	10W	10W-30
Below −10°	...	5W-20

CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill [★]

Oil Fill Cap .... Wash
With PCV system, fill slowly to prevent overflow.
With closed PCV system, sealed cap, no service
1961 [8] 1962-64 [6]

Distributor Shaft (oil cup) .. Sparingly 10W MO
292-cu. in. engine, at rear
Wick under rotor ...... Sparingly 10W MO
Shaft and wick .. 1961-62 [12] 1963-64 [C]

TRANSMISSION, Automatic .. FA

Check level, engine idling, PARK position .... [★]

CAPACITY, quarts	Initial Refill	Total Refill
2-speed	5	9
3-speed, Multi-Drive	5	10

DRAIN and REFILL Not recommended
Remove 2 converter plugs. 3-speed, also disconnect fill pipe; 2-speed, remove oil pan
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

Manifold Heat Control Valve Shaft .... MH [★]
Not on 352-, 390-cu. in. engines

PCV System .... Service
Valve .... Clean [★]
292-cu. in. engine, at front of carburetor
All parts .... Clean [12]
Including filter and tube

Front Wheel Bearings .... Repack WB
1961, initial torque, 11½-12½ ft. lb.; final adjustment, loosen ⅙ but not more than ⅓ turn
1962, initial torque, 12½ ft. lb.; 1963-64, initial torque, 15-20 ft. lb.; then with nut-lock on spindle nut and castellation aligned with hole in spindle, back off both nut and nut-lock together, one castellation and install cotter pin
1961 [12] 1962 [30] 1963-64 [24]

BRAKE ADJUSTMENT

Self-adjusting brakes are used. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, adjust the brakes as follows:

Note: If frame contact hoist is used, disconnect parking brake cable

1. Expand shoes until a slight drag is felt when turning drums
2. Remove brake drums
3. Hold adjusting lever away from adjusting screw, and back off the adjusting screw ¾ of a turn
4. Reinstall drums and wheels
5. Operate car in reverse and make 5 or 6 brake applications to bring the shoes into proper adjustment
6. Reconnect and adjust parking brake cable

Bleeding sequence: RR, LR, RF, LF

1962 Power brakes: Master cylinder, RR, LR, RF, LF, master cylinder

KEY TO INTERVALS

[★] 1961, Every 4,000 miles or 4 months
1962-64, Every 6,000 miles or 6 months
[6] Every 6,000 miles or 6 months
[8] Every 8,000 miles or 8 months
[12] Every 12,000 miles or 12 months
[24] Every 24,000 miles or 24 months
[30] Every 30,000 miles or 24 months
[36] Every 36,000 miles or 36 months
[C] Conditional service
1963-64, lubricate distributor shaft and wick at time of tune-up

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A, Suffix A
- **EP** Mild Extreme Pressure Gear Lub. Ford Specification No. M-568-D
- **FA** Ford Automatic Transmission Fluid Ford Specification No. M2C33-D
- **HB** Hydraulic Brake Fluid, Heavy-Duty
- **HP*** Hypoid Gear Lubricant Ford Specification No. M2C50-B; with 390-, 406-, 427-cu. in. engines, M2C57-A
- **LM** Lithium Grease, with Moly Ford Specification No. M-1C47
- **MH** Manifold Heat Control Valve Solvent FoMoCo Part No. COAA-19A501-A
- **MO** Motor Oil
- **SG** Steering Gear Lubricant Ford Specification No. ESW-M-1C87-A
- **SS** Special Purpose Lubricant Ford Specification No. M1C-39
- **UJ** Universal Joint Grease Ford Specification No. M1C57
- **WB** Wheel Bearing Grease Ford Specification No. M1C60-A

* Power Transfer, use Ford Spec. No. M2C50-B and add 1 oz. of additive, Ford Spec. No. M2C58-A per pint of lubricant

MERCURY 6

1962-63 Meteor All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22NF	40
	24F	55

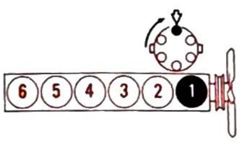
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 150-190
Allowable tolerance between cylinders, 10 psi

SPARK PLUGS
Autolite BF82
Gap: .032"-.036"
Torque: 20 ft. lb.
Do not use gasket with tapered seat plugs

IGNITION POINTS
FoMoCo
Gap: .024"-.026"
Dwell angle: 35°-38°

CONDENSER
FoMoCo
Capacity: .21-.25 mfd

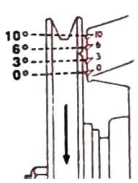
Cylinder Numbering Sequence



Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
1962: Manual Trans. 4° (Allowable range, 2°-9°)
Auto. Trans. 10° (Allowable range, 2°-15°)
1963: Manual Trans. 6° (Allowable range, 2°-11°)
Auto. Trans. 10° (Allowable range, 2°-15°)

FUEL PUMP
AC mechanical
Pressure: 3½-5½ lb. at 500 rpm
Volume: 1 pint in 30 seconds at 500 rpm

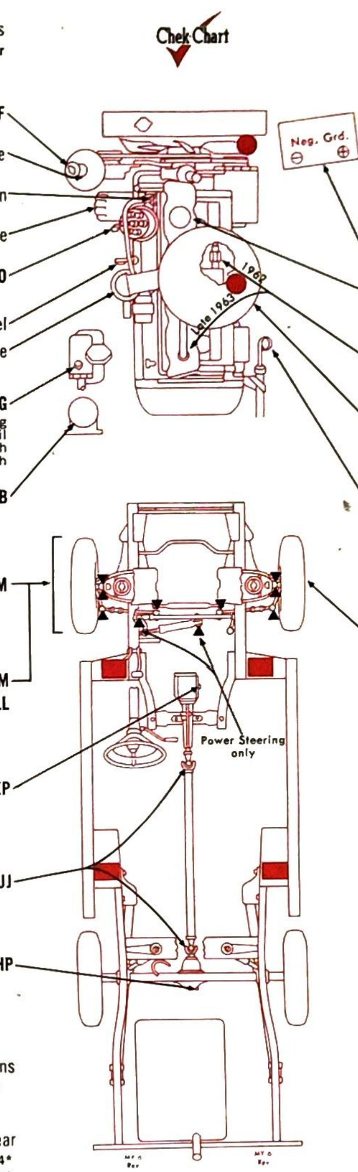
CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
FORD 1-bbl.	1-1½	index	index
HOLLEY 1-bbl.	1½	index	index

ENGINE IDLE SPEED
Manual Trans. 500-550 rpm*
Auto. Trans. 475-525 rpm** in DRIVE
With air conditioning, as listed above but with unit turned ON and in operation for 20 minutes
* 1962: With smog reduction, 550-600 rpm
** 1962: With smog reduction, 525-575 rpm

VALVE CLEARANCES
(engine hot and running)
1962: Intake .016"; exhaust .016"
1963: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS



COOLING SYSTEM . . . . Quarts

	With Heater	Without Heater
All models	9½	8½

Cooling system pressure, 12-15 pounds

★ Power Steering Reservoir . . . . AF
Fill to "F" mark on gage

36 Power Steering Filter . . . . Replace
1963 only. Inside reservoir

12 PCV System Early 1963 . . . . Clean
Clean tube and separator

★ Oil Filter . . . . Replace
Add extra quart oil

Distributor Shaft (fill oil cup) . . . . 10W MO
12 1962 C 1963

Crankcase Dipstick . . . . Check level

Fuel Filter . . . . Replace
30 1962 36 1963

12 Steering Gear (plug) . . . . SG
Turn wheels to left, remove fill plug and housing cover lower cap screw. Fill thru plug hole until lubricant comes out of cap screw hole. With power brakes, fill thru lower cap screw hole, with steering wheel centered

★ Brake Master Cylinder (cap) . . . . HB
Fill to ¼-½ inch below top of cylinder

Front Suspension . . . . (4 plugs) LM
Lubricate using special adapter. Reinstall plug
30 1962 36 1963

Steering Linkage (4 or 6 plugs)
30 1962 . . . . LM
36 1963 LL
Lubricate using special adapter. Reinstall plug

TRANSMISSION, Manual . . 80 EP
★ Maintain level to fill plug hole
CAPACITY 2½ pints
DRAIN and REFILL Not recommended

Universal Joints (plug) . . . . UJ
Lubricate using special adapter. Reinstall plug
30 1962 36 1963

DIFFERENTIAL . . . . 90 HP
★ Maintain level to fill plug hole
CAPACITY 4½ pints
DRAIN and REFILL Not recommended

GAS TANK . . . . Gallons
All models 16

TIRES

	Pressure Front	Rear
6.50-14	24*	24*
7.00-14	24*	24*
7.00-14 station wagon	24*	28*

* For considerable high-speed driving or heavy loads, add 4 to 6 pounds

Rotate tires, Method A, then balance wheels if required
12 1962 ★ 1963

■ Position for lift adapter
▲ Prepacked bearing
● Cooling system drain

CRANKCASE . . . . "MS" MO.

Above +90°	30	10W-30
Above +20°	20,20W	10W-30
Above −10°	10W	10W-30
Below −10°	...	5W-20

CAPACITY 3½ quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery . . . . Test and fill ★

Oil Fill Cap . . . . Wash ★
With positive crankcase ventilation system, fill slowly to prevent overflow

PCV System Valve 1962, late 1963 . . . Service
Valve . . . . Clean ★
All parts . . . . Clean 12

Air Cleaner Element . . . . Service
Dry type . . . . Clean ★
Dry type . . . . Replace
1962 30 1963 24

TRANSMISSION, Automatic . . FA
Check level, engine idling, PARK position . . . . ★

CAPACITY, quarts	Initial Refill	Total Refill
All models	4	7½

DRAIN and REFILL Not recommended
Remove 2 converter plugs and oil pan
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

Front Wheel Bearings . . . . Repack WB
1962 30 1963 24
Initial torque, 12½ ft. lb.; then with nut-lock on spindle nut and castellation aligned with hole in spindle, back off both nut and nut-lock together, one castellation and install cotter pin

BRAKE ADJUSTMENT
Self-adjusting brakes are used. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, adjust the brakes as follows:
Note: If frame contact hoist is used, disconnect parking brake cable
1. Expand shoes until a slight drag is felt when turning drums
2. Remove brake drums
3. Hold adjusting lever away from adjusting screw, and back off the adjusting screw ¾ of a turn
4. Reinstall drums and wheels
5. Operate car in reverse and make 5 or 6 brake applications to bring the shoes into proper adjustment
6. Reconnect and adjust parking brake cable

Bleeding sequence: RR, LR, RF, LF
Power brakes: Master cylinder, RR, LR, RF, LF, master cylinder

KEY TO INTERVALS
★ Every 6,000 miles or 6 months
12 Every 12,000 miles or 12 months
24 Every 24,000 miles or 2 years
30 Every 30,000 miles or 2 years
36 Every 36,000 miles or 3 years
C Conditional service
1963, lubricate distributor shaft at time of tune-up

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A, Suffix A
- **EP** Mild Extreme Pressure Gear Lub. Ford Specification No. M-568-D
- **FA** Ford Automatic Transmission Fluid Ford Specification No. M2C33-D
- **HB** Hydraulic Brake Fluid, Heavy-Duty
- **HP** Hypoid Gear Lubricant Ford Specification No. M2C50-B
- **LL** Linkage Lubricant Ford Specification No. M-1C48
- **LM** Lithium Grease, with Moly Ford Specification No. M-1C47
- **MO** Motor Oil
- **SG** Steering Gear Lubricant Ford Specification No. ESW-M-1C87-A
- **UJ** Universal Joint Grease Ford Specification No. M-1C57
- **WB** Wheel Bearing Grease Ford Specification No. M1C60-A

MERCURY V-8

1962-63 Meteor All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24F	55
		65

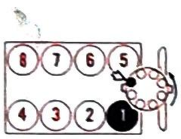
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 130-170
Allowable tolerance between cylinders, 10 psi

SPARK PLUGS
Autolite BF42
Gap: .032"-.036"
Torque: 20 ft. lb.
Do not use gasket with tapered seat plugs

IGNITION POINTS
FoMoCo
Gap: .014"-.016"
Dwell angle: 26°-28½°

CONDENSER
FoMoCo
Capacity: .21-.25 mfd

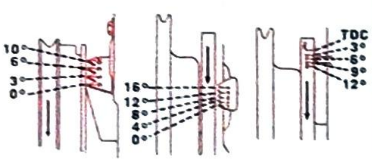
Cylinder Numbering Sequence



Firing Order: 1, 5, 4, 2, 6, 3, 7, 8

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Disconnect distributor vacuum line and tape manifold opening
3. Connect tachometer
4. Connect timing light to No. 1 spark plug
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor as necessary to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
1962: 221 eng. 4° (Allowable range, 2°-5°)
260 eng. 4° (Allowable range, 2°-6°)
1963: 221 engine
Man. Trans. 4° (Allowable range, 2°-9°)
Auto. Trans. 12° (Allowable range, 2°-17°)
260 engine
Man. Trans. 4° (Allowable range, 2°-9°)
Auto. Trans. 10° (Allowable range, 2°-15°)

FUEL PUMP
AC mechanical
Pressure: 4-6 lb. at 500 rpm
Volume: 1 pint in 20 seconds at 500 rpm

CARBURETOR ADJUSTMENT

FORD	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
1962 2-bbl.	1½	2 lean	2 lean
1963 2-bbl.	1-1½	4 lean	4 lean

ENGINE IDLE SPEED
Manual Trans. 1962, 500-525 rpm*; 1963, 575-600 rpm
Auto. Trans. 475-500 rpm in DRIVE
With air conditioning, as listed above but with unit turned ON and in operation for 20 minutes
* 1962: With smog reduction, 525-575 rpm

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	14½	13½

Cooling system pressure, 12-15 pounds

Fuel Filter .... Replace
30 1962 36 1963

★ **Power Steering Reservoir** .... AF
Fill to "F" mark on gage

36 **Power Steering Filter** .... Replace
1963 only. Inside reservoir

★ **Oil Filter** (under car) .... Replace
Add extra quart oil

Distributor Shaft (fill oil cup) .... 10W MO
12 1962 C 1963
Wick under rotor ...... Sparingly 10W MO
12 1962 C 1963

Air Cleaner Element .... Service
★ Dry type .... Clean
30 Dry type .... Replace

12 **Steering Gear** (plug) .... SG
Turn wheels to left, remove fill plug and housing cover lower cap screw. Fill thru plug hole until lubricant comes out of cap screw hole. With power brakes, fill thru lower cap screw hole, with steering wheel centered

★ **Brake Master Cylinder** (cap) .... HB
Fill to ¼-½ inch below top of cylinder

Front Suspension .... (4 plugs) LM
Lubricate using special adapter. Reinstall plug
30 1962 36 1963

Steering Linkage (4 or 6 plugs)
30 1962 .... LM
36 1963 LL
Lubricate using special adapter. Reinstall plug

TRANSMISSION, Manual .. 80 EP
★ Maintain level to fill plug hole
CAPACITY 3-speed, 3½ pints, with overdrive, 4 pints; 4-speed, 3½ pints
DRAIN and REFILL Not recommended
Overdrive, check level and drain thru separate plug holes. Fill slowly thru transmission

Universal Joints (plug) .... UJ
Lubricate using special adapter. Reinstall plug
30 1962 36 1963

DIFFERENTIAL .... 90 HP
★ Maintain level to fill plug hole
CAPACITY 4½ pints
DRAIN and REFILL Not recommended

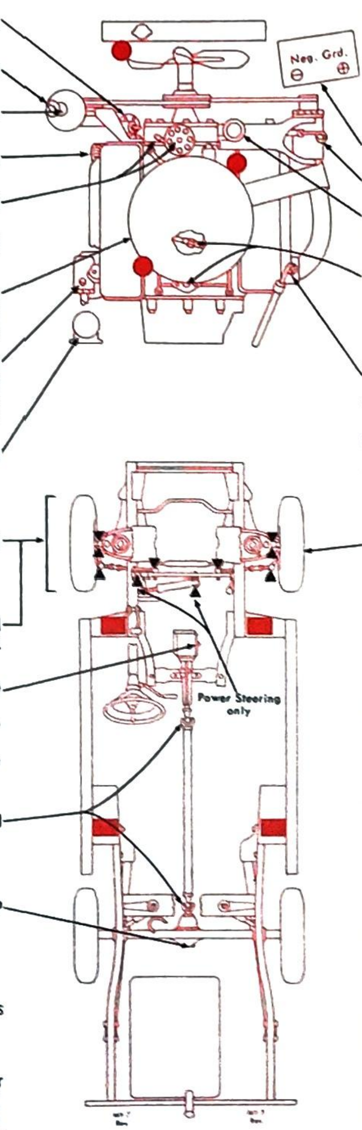
GAS TANK .... Gallons
All models 16

TIRES .... Pressure

	Front	Rear
6.50-14	24*	24*
7.00-14	24*	24*
7.00-14 station wagon	24*	28*

* For considerable high-speed driving or heavy loads, add 4 to 6 pounds

Rotate tires, Method A, then balance wheels if required
12 1962 ★ 1963



Position for lift adapter
▲ Prepacked bearing
Cooling system drain

CRANKCASE .... "MS" MO

Above +90°	30	10W-30
Above +20°	20,20W	10W-30
Above −10°	10W	10W-30
Below −10°	...	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill ★

Crankcase Dipstick .... Check level

Oil Fill Cap .... Wash ★
With positive crankcase ventilation system, fill slowly to prevent overflow

PCV System .... Service
Valve .... Clean ★
Filter .... Clean 12
Also disassemble and clean all parts, including exhaust line

TRANSMISSION, Automatic .. FA
Check level, engine idling, PARK position .... ★
CAPACITY, quarts Initial Refill 4 Total Refill 8½
All models ....
DRAIN and REFILL Not recommended
Remove 2 converter plugs and oil pan
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

Front Wheel Bearings .... Repack WB
1962 30 1963 24
Initial torque, 12½ ft. lb.; then with nut-lock on spindle nut and castellation aligned with hole in spindle, back off both nut and nut-lock together, one castellation and install cotter pin

BRAKE ADJUSTMENT

Self-adjusting brakes are used. No adjustment is normally required. If the brakes have been relined or the adjustment disturbed, adjust the brakes as follows:

Note: If frame contact hoist is used, disconnect parking brake cable

1. Expand shoes until a slight drag is felt when turning drums
2. Remove brake drums
3. Hold adjusting lever away from adjusting screw, and back off adjusting screw ¾ turn
4. Reinstall drums and wheels
5. Operate car in reverse, make 5 or 6 brake applications to bring shoes into proper adjustment
6. Reconnect and adjust parking brake cable

Bleeding sequence: RR, LR, RF, LF
Power brakes: Master cylinder, RR, LR, RF, LF, master cylinder

KEY TO INTERVALS

★ Every 6,000 miles or 6 months
12 Every 12,000 miles or 12 months
24 Every 24,000 miles or 2 years
30 Every 30,000 miles or 2 years
36 Every 36,000 miles or 3 years
C Conditional service
1963, lubricate distributor shaft at time of tune-up
1963, lubricate distributor wick under rotor at time of tune-up

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A, Suffix A
- **EP** Mild Extreme Pressure Gear Lub. Ford Specification No. M-568-D
- **FA** Ford Automatic Transmission Fluid Ford Specification No. M2C33-D
- **HB** Hydraulic Brake Fluid, Heavy-Duty
- **HP** Hypoid Gear Lubricant Ford Specification No. M2C50-B
- **LL** Linkage Lubricant Ford Specification No. M-1C48
- **LM** Lithium Grease, with Moly Ford Specification No. M-1C47
- **MO** Motor Oil
- **SG** Steering Gear Lubricant Ford Specification No. ESW-M-1C87-A
- **UJ** Universal Joint Grease Ford Specification No. M-1C57
- **WB** Wheel Bearing Grease Ford Specification No. M1C60-A

MERCURY COMET 6

1963-64 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22NF	40
1963 Opt.	24F	55
1964 Opt.	24F	65

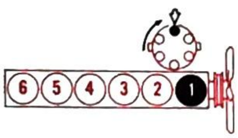
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 150-190
1963: Maximum cylinder variation, 10 psi
1964: Maximum cylinder variation, 20 psi

SPARK PLUGS
Autolite BF82
Gap: .032"-.036"
Torque: 15-20 ft. lb.
Do not use gasket with tapered seat plugs

IGNITION POINTS
FoMoCo
Gap: .024"-.026"
Dwell angle: 35°-38°

CONDENSER
FoMoCo
Capacity: .21-.25 mfd

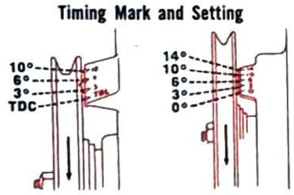
Cylinder Numbering Sequence



Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft pulley and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
1963: 144 engine
Manual Trans. 8°*
Auto. Trans. 12°*
1963-64: 170 engine
Manual Trans. 6°*
Auto. Trans. 12°*
1964: 200 engine
Auto. Trans. 12°*

* For optimum performance and economy, timing may be advanced to a point just short of audible detonation under road test load but not to exceed 5° over normal setting. Do not retard initial advance beyond 2° BTDC

FUEL PUMP
AC mechanical
Pressure: 3½-5½ lb. at 500 rpm
Volume: 1 pint in 30 seconds at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
FORD 1-bbl.	1-1½	index	index

ENGINE IDLE SPEED
Manual Trans. 500-525 rpm
Auto. Trans. in DRIVE:
144 engine, 500-550 rpm
170, 200 engines, 500-525 rpm
With air conditioning, as listed above but with unit turned ON and in operation for 20 minutes

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	9½	8½

Cooling system pressure, 13-15 pounds

★ **Power Steering Reservoir** .... AF
Fill to "F" mark on gage

36 **Power Steering Filter** .... Replace
Inside reservoir

12 **PCV System** Early 1963 .... Clean
Clean tube, filter and separator

★ **Oil Filter** .... Replace
Add extra quart oil

C **Distributor Shaft** (oil cup) .. Sparingly 10W MO

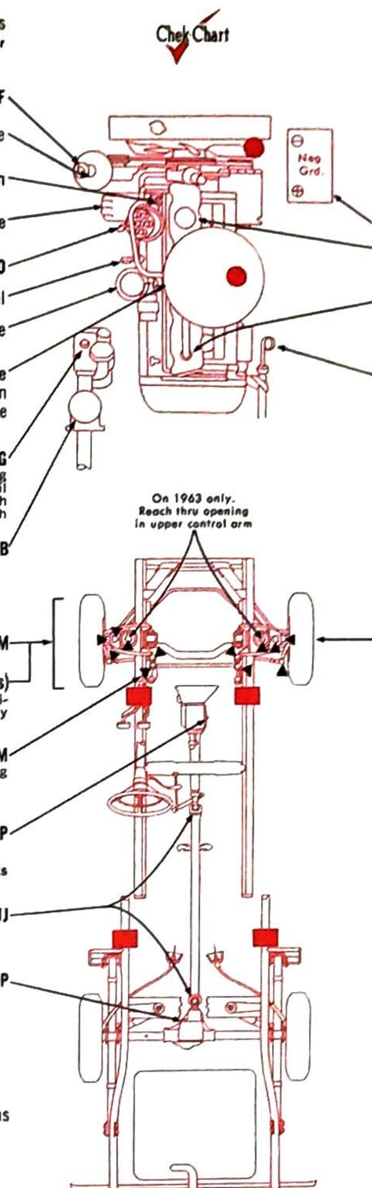
Crankcase Dipstick .... Check level

36 **Fuel Filter** .... Replace
Replace initially at 6,000 miles

Air Cleaner Element .... Service
★ Dry type .... Clean
Dry type .... Replace
24 1963 36 1964

★ **Steering Gear** (plug) .... SG
Turn wheels to right, remove fill plug and housing cover upper cap screw. Fill thru plug hole until lubricant comes out of cap screw hole. With power brakes, fill thru upper cap screw hole, with steering wheel centered

★ **Brake Master Cylinder** (cap) .... HB
Fill to ¼-½ inch below top of cylinder



CRANKCASE .... "MS" MO

Above +90°	30	10W-30
Above +20°	20,20W	10W-30
Above −10°	10W	10W-30
Below −10°		5W-20

CAPACITY 3½ quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill ★

Oil Fill Cap .... Wash ★
Fill slowly to prevent overflow. With closed PCV system, sealed cap, no service

PCV System Late 1963, 1964 .... Service
Valve .... Clean ★
All parts .... Clean 12

TRANSMISSION, Automatic .. FA
Check level, engine idling, PARK position .... ★

CAPACITY, quarts	Initial Refill	Total Refill
All models	4	7½

DRAIN and REFILL Not recommended
Remove 2 converter plugs and oil pan
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

36 **Front Suspension** .... (4 or 6 plugs) LM
Lubricate using special adapter. Reinstall plug

★ **Steering Linkage** ...... (5 or 6 sealed bearings)
Inspect seal; if damaged, or if there is any evidence of looseness, replace entire pivot assembly

36 **Pitman Arm Stud** .... (plug) LM
Models with power steering only. Lubricate using special adapter. Reinstall plug

Front Wheel Bearings .... Repack WB 24
Initial torque, 15-20 ft. lb.; then with nut-lock on spindle nut and castellation aligned with hole in spindle, back off both nut and nut-lock together one castellation and install cotter pin

TRANSMISSION, Manual ... 80 EP
★ Maintain level to fill plug hole
CAPACITY 3-speed, 2½ pints; 4-speed, 4¾ pints
DRAIN and REFILL Not recommended

36 **Universal Joints** (plug) .... UJ
Lubricate using special adapter. Reinstall plug

DIFFERENTIAL .... 90 HP
★ Maintain level to fill plug hole
1964, fill plug on rear cover
CAPACITY 2½ pints
DRAIN and REFILL Not recommended

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, proceed as follows:
1. Turn star wheel adjuster until shoes contact drum lightly
2. Remove drums
3. Hold adjusting lever away from star wheel and back off adjustment ¾ turn with finger pressure only. If adjustable screw does not turn easily, remove and lubricate
4. Reinstall drums
5. Operate car in reverse and apply brakes several times

Bleeding sequence: RR, LR, RF, LF

GAS TANK .... Gallons

1963	14
1964	20

TIRES .... Pressure

	Front	Rear
6.00-13, 6.50-13, 7.00-13	24*	24*
6.50-14, 7.00-14	24*	24*
Station wagon	24*	28*

* For extensive high-speed driving or heavy loading, add 4 to 6 pounds

★ Rotate tires, Method A, then balance wheels if required

■ Position for lift adapter
▲ Prepacked bearing
● Cooling system drain

KEY TO INTERVALS

★ Every 6,000 miles or 6 months
12 Every 12,000 miles or 12 months
24 Every 24,000 miles or 24 months
36 Every 36,000 miles or 36 months
C Conditional service
Lubricate distributor shaft at time of tune-up

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
EP Mild Extreme Pressure Gear Lub. Ford Specification No. M-568-D
FA Ford Automatic Transmission Fluid Ford Specification No. M2C33-D
HB Hydraulic Brake Fluid, Heavy-Duty
HP Hypoid Gear Lubricant Ford Specification No. M2C50-B
LM Lithium Grease, with Moly Ford Specification No. M-1C47
MO Motor Oil
SG Steering Gear Lubricant Ford Specification No. ESW-M-1C87-A
UJ Universal Joint Grease Ford Specification No. M-1C57
WB Wheel Bearing Grease Ford Specification No. M1C60-A

MERCURY COMET V-8

1963-64 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24F	55, 65

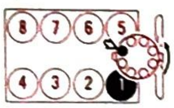
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 130-170
1963: Maximum cylinder variation, 10 psi
1964: Maximum cylinder variation, 20 psi

SPARK PLUGS
Autolite: 1963, BF42; 1964, 260 eng. BF42, 289 eng. BF32
Gap: .032"-.036"
Torque: 15-20 ft. lb.
Do not use gasket with tapered seat plugs

IGNITION POINTS
FoMoCo
Gap: .014"-.016"
Dwell angle: 26°-28½°

CONDENSER
FoMoCo
Capacity: .21-.25 mfd

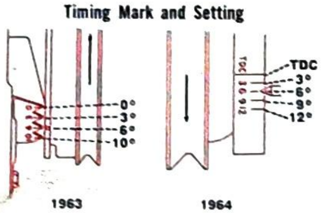
Cylinder Numbering Sequence



Firing Order: 1, 5, 4, 2, 6, 3, 7, 8

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Disconnect distributor vacuum line and tape manifold opening
3. Connect tachometer
4. Connect timing light to No. 1 spark plug
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft pulley and turn distributor as necessary to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
1963:
Manual Trans. 6° (Allowable range, 2°-11°)
Auto. Trans. 10° (Allowable range, 2°-15°)
1964: 260 engine
Manual Trans. 6°*
Auto. Trans. 10°*
289 engine
Manual Trans. 6°*
Auto. Trans. 8°*

* If engine requirements or substandard fuels dictate, timing may be retarded from recommended setting to eliminate detonation but not to exceed 2° BTDC

FUEL PUMP
AC mechanical
Pressure: 4-6 lb. at 500 rpm
Volume: 1 pint in 20 seconds at 500 rpm

CARBURETOR ADJUSTMENT

FORD		Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
2-bbl.	1963	1½	4 lean	4 lean
	1964	1-1½	2 rich	2 rich
4-bbl.	1964	1-1½	1 lean	3 lean

ENGINE IDLE SPEED
Manual Trans. 575-600 rpm
Auto. Trans. 475-500 rpm in DRIVE
With air conditioning, as listed above but with unit turned ON and in operation for 20 minutes

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	14½	13½

Cooling system pressure, 12-15 pounds

36 Fuel Filter .... Replace

★ Power Steering Reservoir .... AF
Fill to "F" mark on gage

36 Power Steering Filter .... Replace
Inside reservoir

★ Oil Filter (under car) .... Replace
Add extra quart oil

★ Oil Fill Cap .... Wash
Fill slowly to prevent overflow. With closed PCV system, sealed cap, no service
1963, located on right side, front of air cleaner

C Distributor Shaft (fill oil cup) .... 10W MO
C Wick under rotor ...... Sparingly 10W MO

Air Cleaner Element .... Service
★ Dry type .... Clean
Dry type .... Replace
30 1963 36 1964

★ Steering Gear (plug) .... SG
Turn wheels to right, remove fill plug and housing cover upper cap screw. Fill thru plug hole until lubricant comes out of cap screw hole. With power brakes, fill thru upper cap screw hole, with steering wheel centered

★ Brake Master Cylinder (cap) .... HB
Fill to ¼-½ inch below top of cylinder

CRANKCASE .... "MS" MO

Above +90°	30	10W-30
Above +20°	20,20W	10W-30
Above −10°	10W	10W-30
Below −10°		5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill ★

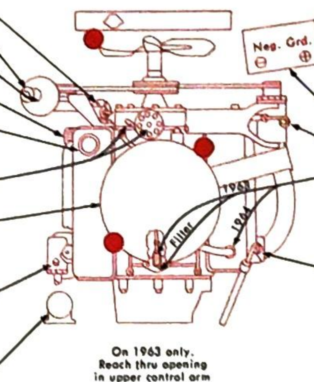
Crankcase Dipstick .... Check level

PCV System .... Service
Valve .... Clean ★
All parts .... Clean 12
Including filter on 1963 only

TRANSMISSION, Automatic .. FA
Check level, engine idling, PARK position ...... ★

CAPACITY, quarts	Initial Refill	Total Refill
All models	4	7½

DRAIN and REFILL Not recommended
Remove 2 converter plugs and oil pan
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added



36 Front Suspension .... (4 or 6 plugs) LM
Lubricate using special adapter. Reinstall plug

★ Steering Linkage ...... (5 or 6 sealed bearings)
Inspect seal; if damaged, or if there is any evidence of looseness, replace entire pivot assembly

36 Pitman Arm Stud .... (plug) LM
Models with power steering only. Lubricate using special adapter. Reinstall plug

TRANSMISSION, Manual ... 80 EP
★ Maintain level to fill plug hole
CAPACITY 3-speed, 2½ pints; 4-speed, 4½ pints
DRAIN and REFILL Not recommended

36 Universal Joints (plug) .... UJ
Lubricate using special adapter. Reinstall plug

DIFFERENTIAL .... 90 HP
★ Maintain level to fill plug hole
1964, fill plug on rear cover
CAPACITY 4½ pints
DRAIN and REFILL Not recommended

GAS TANK .... Gallons

1963	14
1964	20

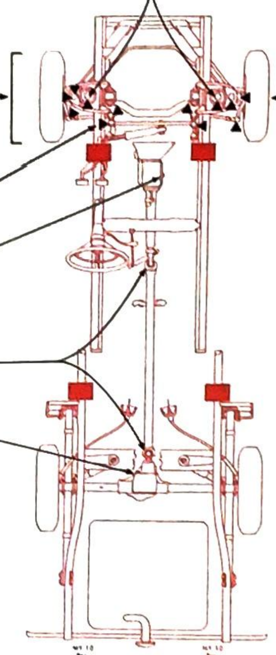
TIRES .... Pressure

	Front	Rear
6.50-14, 7.00-13, 7.00-14	24*	24*
Station wagon	24*	28*

* For extensive high-speed driving or heavy loading, add 4 to 6 pounds

★ Rotate tires, Method A, then balance wheels if required

Front Wheel Bearings .... Repack WB 24
Initial torque, 15-20 ft. lb.; then with nut-lock on spindle nut and castellation aligned with hole in spindle, back off both nut and nut-lock together one castellation and install cotter pin



BRAKE ADJUSTMENT

Self-adjusting brakes are used. No adjustment is normally required. If the brakes have been relined or the adjustment disturbed, adjust the brakes as follows:

Note: If frame contact hoist is used, disconnect parking brake cable

1. Expand shoes until a slight drag is felt when turning drums
2. Remove brake drums
3. Hold adjusting lever away from adjusting screw, and back off adjusting screw ¾ turn
4. Reinstall drums and wheels
5. Operate car in reverse, make 5 or 6 brake applications to bring shoes into proper adjustment
6. Reconnect and adjust parking brake cable

Bleeding sequence: RR, LR, RF, LF
Power brakes: Master cylinder, RR, LR, RF, LF, master cylinder

Position for lift adapter
▲ Prepacked bearing
Cooling system drain

KEY TO INTERVALS

★ Every 6,000 miles or 6 months
12 Every 12,000 miles or 12 months
24 Every 24,000 miles or 24 months
30 Every 30,000 miles or 24 months
36 Every 36,000 miles or 36 months
C Conditional service
Lubricate distributor shaft and wick at time of tune-up

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A, Suffix A
- **EP** Mild Extreme Pressure Gear Lub. Ford Specification No. M-568-D
- **FA** Ford Automatic Transmission Fluid Ford Specification No. M2C33-D
- **HB** Hydraulic Brake Fluid, Heavy-Duty
- **HP** Hypoid Gear Lubricant Ford Specification No. M2C50-B; with 289-cu. in. engine, M2C57-A
- **LM** Lithium Grease, with Moly Ford Specification No. M-1C47
- **MO** Motor Oil
- **SG** Steering Gear Lubricant Ford Specification No. ESW-M-1C87-A
- **UJ** Universal Joint Grease Ford Specification No. M-1C57
- **WB** Wheel Bearing Grease Ford Specification No. M1C60-A

OLDSMOBILE F-85

1961-62 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22F	42

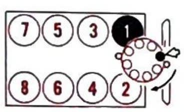
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All ....minimum 100*
* Lowest cylinder pressure should be within 80% of highest cylinder

SPARK PLUGS
AC: 2-bbl. carb., 46FFX; 4-bbl. carb., Jetfire, 45FF
Gap: .030"
Torque: 12-17 ft. lb.*
* Use thread lubricant

IGNITION POINTS
Delco
Gap: .016"
Dwell angle: 28°-32° (30° preferred)

CONDENSER
Delco
Capacity: .18-.23 mfd

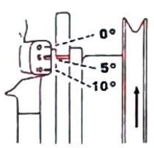
Cylinder Numbering Sequence



Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed to 850 rpm, transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
2-bbl. carb. with Manual Trans. 5° at 850 rpm
2-bbl. carb. with Auto. Trans. 7½° at 850 rpm
4-bbl. carb. 7½° at 850 rpm
Jetfire, 10° at 850 rpm

FUEL PUMP
AC mechanical
Pressure: 1961, early 1962 (metal bottom cover): 4-5¼ lb. at 1800 rpm
Late 1962 (glass filter bowl): 7½-8½ lb. at 1800 rpm
Volume: Not required

CARBURETOR ADJUSTMENT

ROCHESTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
2-bbl. 2GC	1½	index	1 lean*
4-bbl. 4GC	1½	index**	index**
RC (Jetfire)	1½	manual	index

* 1962, index
** 1962, 1 rich; fuel pump with glass filter bowl, 2 rich

ENGINE IDLE SPEED
Manual Trans. 550 rpm
Auto. Trans. 500 rpm in DRIVE
Air Cond. 550* rpm with unit turned OFF and idle compensator valve held closed (Dealer installed unit turned ON)
* Auto. Trans. in DRIVE

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
Jetfire	11½	10
Air Cond. ex. Jetfire	12½	11
All others	12	10½

Cooling system pressure, 15 pounds

[C] **Turbo-Rocket Fluid Tank** ....TR
Check and fill as required. Jetfire only
CAPACITY 5 quarts

[★] **Power Steering Reservoir** ....AF
Fill to FULL mark on gage, fluid at operating temperature

[C] **Fuel Filter** ....Service
Clean glass bowl and clean or replace ceramic element

[★] **Manual Steering Gear** ....80 MP

[OC] **Oil Fill Cap** ....Wash and oil 10W-30 MO
Jetfire, right side forward

Crankcase Dipstick ....Check level

Air Cleaner Element ....Service
Jetfire, side mounted
[16] Dry type ....Replace
[8] Washable type ....Wash and oil 20 MO
Service more often in extreme dust

[★] **Brake Master Cylinder** (cap) ....HB
Fill to ¼ inch below top of fill hole

[★] **Front Suspension and Steering Linkage** ....(17 fittings) CL

[★] **Clutch Equalizer Shaft** CL

TRANSMISSION, Manual ..80 MP
[★] Maintain level to fill plug hole
CAPACITY 3-speed, 2 pints; 4-speed, 2½ pints
DRAIN and REFILL Not recommended

[24] **Speedometer Cable** ....Coat lower ⅔ SP

[C] **Parking Brake Cables** ....Coat LM

DIFFERENTIAL ....90 MP*
[★] Maintain level to fill plug hole
CAPACITY 2 pints
DRAIN and REFILL Not recommended
ANTI-SPIN IDENTIFICATION:
Lubrication tag attached to fill plug

GAS TANK ....Gallons

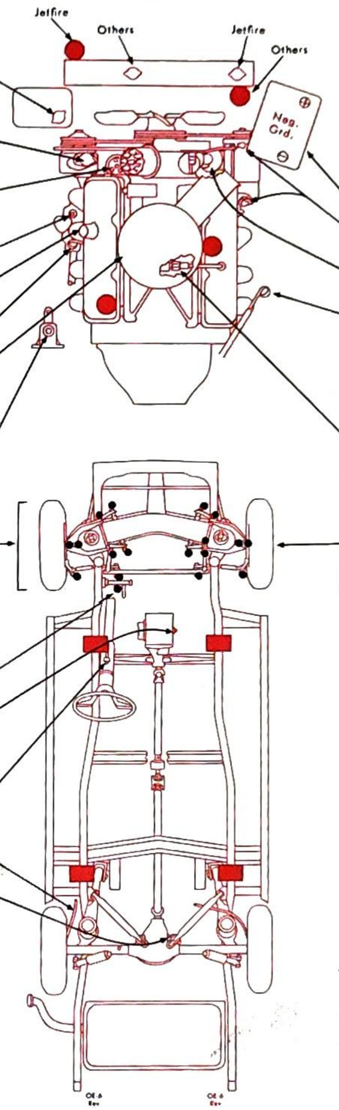
Station wagon, 3-seat	15
All other models	16

TIRES ....Pressure

	Front	Rear
6.00-15	22*	22*▲
6.50-13	22*	22*▲
7.00-13	22	22▲

* With air conditioning and convertibles, 24
▲ Station wagons carrying heavy loads for long distances, 26

[4] Rotate tires, Method A



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE ...."MS" MO

Above +32°	20,20W*	10W-30
Above 0°	10W	10W-30
Below 0°	5W▲	5W-20

* 30 may be used above +90°
▲ 5W not recommended for sustained high speed above +60°

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery ....Test and fill [★]

Generator (2 oil cups)..................MO [★]
Jetfire, no lubrication

Oil Filter (under car)...............Replace [4]
Add extra quart oil

TRANSMISSION, Automatic ..AF
Check level, engine idling at operating temperature, PARK position .... [★]

CAPACITY, quarts	Initial Refill	Total Refill
All models	3½	Approx. 4

DRAIN and REFILL.......................... [24]
Remove 1 oil pan drain plug

PCV System Valve ....Clean [10]
Remove air cleaner to service
Remove and clean valve and hose
Jetfire on left valve cover, rear

Front Wheel Bearings ....Repack WB [C]
Initial torque, 18-20 ft. lb. while turning wheel; back off ½ turn; second torque, 8-12 ft. lb.; back off ⅙ to ¼ turn and insert cotter pin

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 4" with standard brakes or more than 2" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:
1. Using a suitable tool inserted into backing plate adjusting slot, expand shoes until a heavy drag is felt when revolving brake drum
2. Back off adjustment 15 notches. Drum should turn freely
3. Repeat operation at each wheel

Bleeding sequence: RR, LR, RF, LF With power brakes, engine must be stopped and vacuum reserve depleted

KEY TO INTERVALS

[★] Every 2,000 miles
[4] Every 4,000 miles
Oil Filter: Every 4,000 miles or 6 months
[8] Every 8,000 miles
[10] Every 10,000 miles
[16] Every 16,000 miles
[24] Every 24,000 miles
[OC] Every crankcase oil change
[C] Conditional service
Check and fill Turbo-Rocket fluid tank as required
Service fuel filter as required
Coat parking brake cables at time of major brake service
Repack front wheel bearings at time of major brake service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CL Chassis Lubricant
Water Resistant EP Type
HB Hydraulic Brake Fluid, Heavy-Duty
GM Brake Fluid Super No. 11
LM Lithium Grease
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
SP Speedometer Cable Grease
TR Turbo-Rocket Fluid
GM Part No. 585411
WB Wheel Bearing Grease

* Standard differential, MP meeting Specification MIL-L-2105B or special lubricant Part No. 531536;
Anti-Spin differential, special lubricant Part No. 531536

OLDSMOBILE F-85

1963 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22F	44

COMPRESSION PRESSURE
(at cranking speed with throttle open) psi

All .... minimum 100*

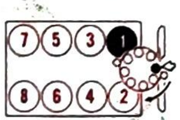
* Lowest cylinder pressure should be within 80% of highest cylinder

SPARK PLUGS
AC: 2-bbl. carb., 46FFX; 4-bbl. carb., 45FF, with Auto. Trans. 44FF, Jetfire 45FF
Gap: 4-bbl. carb. with Manual Trans., Jetfire, .025"; others, .030"
Torque: 12-17 ft. lb.*
* Use thread lubricant

IGNITION POINTS
Delco
Gap: .016"
Dwell angle: 28°-32° (30° preferred)

CONDENSER
Delco
Capacity: .18-.23 mfd

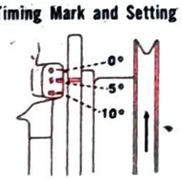
Cylinder Numbering Sequence



Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed to 850 rpm, transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
2-bbl. carb. with Manual Trans. 5° at 850 rpm
2-bbl. carb. with Auto. Trans. 7½° at 850 rpm
4-bbl. carb. 7½° at 850 rpm
Jetfire, 10° at 850 rpm

FUEL PUMP
AC mechanical
Pressure: 6-8 lb. at 1800 rpm
Volume: Not required

CARBURETOR ADJUSTMENT

ROCHESTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
2-bbl. 2GC	1½	index	index
4-bbl. 4GC	1½	index	index
RC (Jetfire)	1	manual	index

ENGINE IDLE SPEED
Manual Trans. 550 rpm*
Auto. Trans. 500 rpm in DRIVE*
Air Cond. 600 (4-bbl, with Auto. Trans., 550) rpm** with unit turned OFF and idle compensator valve held closed. Dealer-installed unit turned ON
* Jetfire, 600 rpm
** Auto. Trans. in DRIVE

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
Jetfire	11½	10
Air Cond. ex. Jetfire	12½	11
All others	12	10½

Cooling system pressure, 15 pounds

[C] **Turbo-Rocket Fluid Tank** .... TR
Check and fill as required. Jetfire only
CAPACITY 5 quarts

[★] **Power Steering Reservoir** .... AF
Fill to FULL mark on gage, fluid at operating temperature

[C] **Fuel Filter** .... Service
Clean glass bowl and clean or replace ceramic element

Air Cleaner Element .... Service
Jetfire, side mounted
[18] Dry type .... Replace
[12] Washable type.. Wash and oil 10W-30 MO

[★] **Manual Steering Gear** (plug) .... 80 MP

[12] **Oil Fill Cap** .... Wash and oil 10W-30 MO
Jetfire, right side forward

Crankcase Dipstick .... Check level

[★] **Brake Master Cylinder** (cap) .... HB
Fill to ¼ inch below top of fill hole

[6] **Front Suspension and Steering Linkage** .... (16 fittings) CL

TRANSMISSION, Manual .. 80 MP
[★] Maintain level to fill plug hole
CAPACITY 3-speed, 2 pints; 4-speed, 2½ pints
DRAIN and REFILL Not recommended

[24] **Speedometer Cable** .... Coat lower ⅔ SP

[C] **Parking Brake Cables** .... Coat LM

DIFFERENTIAL .... 90 MP♦
[★] Maintain level to fill plug hole
CAPACITY 2 pints
DRAIN and REFILL Not recommended
ANTI-SPIN IDENTIFICATION: Lubrication tag attached to fill plug

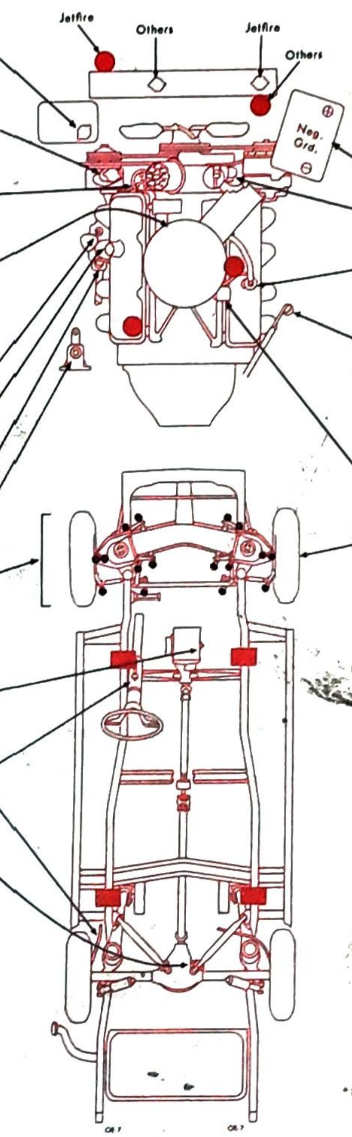
GAS TANK .... Gallons
All models 16

TIRES .... Pressure Front Rear

	Front	Rear
6.00-15, 6.50-13	22*	22
Station wagons	22*	24▲
6.50-14	22*	22▲

* With air conditioning, convertibles & Jetfire, 24
▲Station wagons carrying heavy loads for long distances, add 4 pounds

[6] Rotate tires, Method A



■ Position for lift adapter
• Lubrication fitting
● Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	20,20W◆	10W-30
Above 0°	10W	5W-20
Below 0°	5W▲	5W-20

◆ 30 may be used above +90°
▲ 5W not recommended for sustained high speed above +60°
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill [★]

Oil Filter (under car) .... Replace [6]
Add extra quart oil

PCV System .... Clean [12]
Disassemble and clean all parts
Jetfire on left valve cover, rear

TRANSMISSION, Automatic .. AF
Check level, engine idling at operating temperature, PARK position .. [★]

CAPACITY, quarts	Initial Refill	Total Refill
All models	3½	Approx. 4

DRAIN and REFILL .... [24]
Remove 1 oil pan drain plug

Choke Air Inlet Filter Wash and oil 10W-30 MO [12]

Front Wheel Bearings .... Repack WB [C]
Initial torque, 18-20 ft. lb. while turning wheel; back off ½ turn; second torque, 8-12 ft. lb.; back off ⅙ to ¼ turn and insert cotter pin

BRAKE ADJUSTMENT
Brakes are self-adjusting. DO NOT attempt to manually adjust the brakes on these cars

Bleeding sequence: RR, LR, RF, LF With power brakes, engine must be stopped and vacuum reserve depleted

KEY TO INTERVALS
- [★] Every crankcase oil change
- [6] Every 6,000 miles or 6 months
- [12] Every 12,000 miles or 4 months
  PCV System: Every 12,000 miles or 12 months
- [18] Every 18,000 miles or 18 months
- [24] Every 24,000 miles or 24 months
- [C] Conditional service
  Check and fill turbo-rocket fluid tank as required
  Service fuel filter as required
  Coat parking brake cables at time of major brake service
  Repack front wheel bearings at time of major brake service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CL Chassis Lubricant
Water Resistant EP Type
HB Hydraulic Brake Fluid, Heavy-Duty
GM Brake Fluid Super No. 11
LM Lithium Grease
MO Motor Oil
MP♦ Multi-Purpose Gear Lubricant
SP Speedometer Cable Grease
TR Turbo-Rocket Fluid
Part No. 585411
WB Wheel Bearing Grease

♦ Standard differential, MP meeting Specification MIL-L-2105B or special lubricant Part No. 531536; Anti-Spin differential, special lubricant Part No. 531536

HOOD RELEASE: Front

OLDSMOBILE V-8
1961-64 All Models Except F-85

TUNE-UP DATA
See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
Regular fuel engine	60	62, 70
Premium fuel engine	60	70

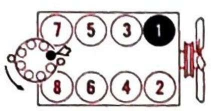
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All ....minimum 100*
* Lowest cylinder pressure should be within 80% of highest cylinder

SPARK PLUGS
AC: Jetstar 88, 44S; Dynamic 88 regular fuel eng. 45; others, 44
Gap: .030"
Torque: 1961-63, 18-34 ft. lb.; 1964, 35 ft. lb.

IGNITION POINTS
Delco
Gap: .016"
Dwell angle: 28°-32° (30° preferred)

CONDENSER
Delco
Capacity: .18-.23 mfd

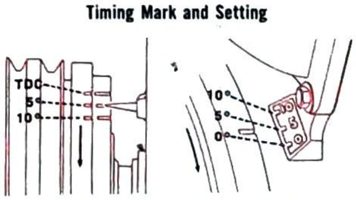
Cylinder Numbering Sequence



Firing Order: 1, 8, 7, 3, 6, 5, 4, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed to 850 rpm, transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



1961-62 1963-64

Timing Setting (Before Top Dead Center):
1961: Regular fuel engine, 5°; Premium fuel engine, 7½°; at 850 rpm
1962-64: Manual Trans. 2½°; Auto. Trans. 5°; at 850 rpm

FUEL PUMP
AC mechanical
Pressure: 5-6 lb. at 1800 rpm
Volume: Not required

CARBURETOR ADJUSTMENT

ROCHESTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
2-bbl. 2GC	1½	index*	index*
4-bbl. 4GC	1½	index	index

* 1962-63, 1 lean

ENGINE IDLE SPEED
Manual Trans.: 1961-63, 550 rpm; 1964, 500 rpm
Auto. Trans. 500 rpm in DRIVE
Air Cond. Same rpm* with unit turned OFF, and idle compensator valve held closed (Dealer installed unit turned ON)
* 1964, 550 rpm

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
1961-63 All with air cond.	22	21
Without air cond.	20¼	19¼
1964 Jetstar 88 with air cond.	18½	17½
Without air cond.	17	16
1964 Others with air cond.	21½	20½
Without air cond.	19¼	18¼

Cooling system pressure, 15 pounds

[★] Battery .... Test and fill
Oil Fill Cap .... Wash and oil 10W-30 MO
[★] 1961-62; 1964 Jetstar 88
[12] 1963; all other 1964
[★] Power Steering Reservoir .... AF, PS
Fill to level mark, fluid at operating temperature
[2] Generator (2 oil cups) 1961 .... MO
Air Cleaner Element .... Service
Dry type .... Replace
[16] 1961-62 [18] 1963-64
Washable type... Wash and oil 10W-30 MO
[8] 1961-62 [12] 1963
[★] PCV Breather .... MO
1961-62, Wash and oil
[★] Manual Steering Gear .... 80 MP
Crankcase Dipstick .... Check level
[10] PCV System 1961-62 .... Clean
Remove and clean valve and hose. Remove air cleaner to service
[★] Brake Master Cylinder (cap) .... HB
Fill to ¼ inch below top of reservoir; Bendix power brakes, ¾ inch below top of reservoir
[★] Clutch Pedal Bell Crank (2 felts)... 10W-30 MO
Jetstar 88, no service
[2] Distributor Shaft (oil cup) 1961 .... MO

Front Suspension
[2] 1961 .... (4 fittings) CL
[8] 1962, [6] 1963-64 .... Inspect seals
[C] 1962, [30] 1963-64 .... (4 plugs) BJ
Inspect for damaged seals or noisy ball joints. Refer to dealer for service

[6] Steering Linkage 1963-64 ...... (4 fittings) CL

[★] Clutch Release Bell Crank (2 felts). 10W-30 MO
Jetstar 88, 1 felt

[24] Speedometer Cable .... Coat lower ⅔ SP

TRANSMISSION, Manual .. 80 MP
[★] Maintain level to fill plug hole
CAPACITY 3-speed: Jetstar 88, 2 pints; all others 2½ pints. 4-speed: 2¼ pints
DRAIN and REFILL Not recommended

[C] Parking Brake Cables .... Coat LM

DIFFERENTIAL .... 90 MP*
[★] Maintain level to fill plug hole
CAPACITY Jetstar 88, 2¾ pints; all others, 5 pints
DRAIN and REFILL Not recommended
ANTI-SPIN IDENTIFICATION:
Lubrication tag attached to carrier opposite fill plug except Jetstar 88, attached to rear cover

GAS TANK .... Gallons

	Gallons
1961-62	20
1963-64	21

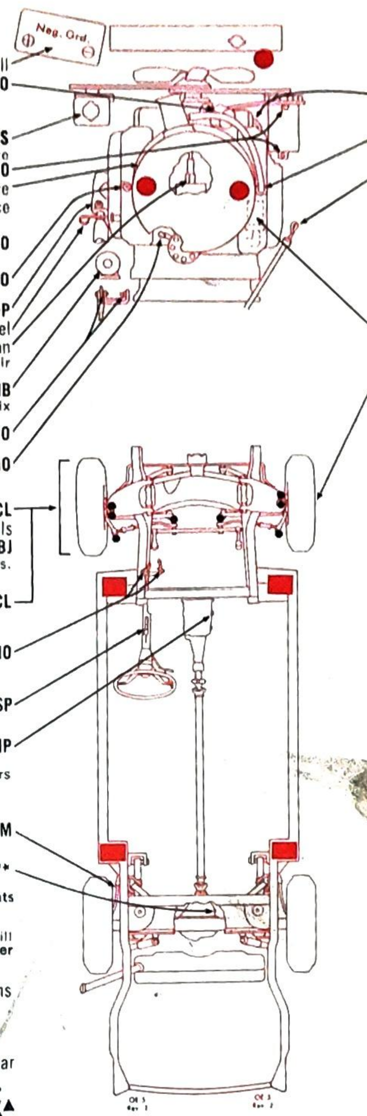
TIRES

Pressure	Front	Rear
7.50-14	24	24
8.00-14	24	22*
8.50-14	22▲	22*▲
Starfire and 88, with air cond.	24	22▲
9.00-14	22▲	22▲

* Fiesta, 24; heavy loads for long distances, 28
▲ 1964 models, 24; station wagons carrying heavy loads for long distances, add 4 pounds

Rotate tires, Method A
[4] 1961-62 [6] 1963-64

Chek Chart



Position for lift adapter
• Lubrication fitting
Cooling system drain

CRANKCASE

		"MS" MO
Above +32°	20,20W◆	10W-30
Above 0°	10W	10W-30**
Below 0°	5W▲	5W-20

◆ 30 may be used above +90°. **1963-64, 5W-20
▲ 5W not recommended for sustained high speed above +60
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Fuel Filter (glass bowl type) .... Service [C]
Clean glass bowl and clean or replace ceramic element. Jetstar 88, no service
PCV System 1963-64 .... Clean [12]
Disassemble and clean all parts

TRANSMISSION, Automatic AF
Check level, engine idling at operating temperature, PARK position [★]

CAPACITY, quarts	Initial Refill	Total Refill
Hydra-Matic	5	Approx. 5½
Jetaway	3	3

DRAIN and REFILL .... [24]
Hydra-Matic, to drain, disconnect fill pipe; Jetaway, remove oil pan
1961-62, for extended slow-speed city driving, prolonged idling and trailer hauling, drain every 10,000 miles
Oil Filter (under car) .... Replace
Add extra quart oil
1961-62 [4] 1963-64 [6]
Front Wheel Bearings .... Repack WB [C]
1961, initial torque 17 ft. lb.; back off nut and retighten to 4 ft. lb.
1962-63, initial torque 23-25 ft. lb.; back off ½ turn; second torque 15-17 ft. lb. 1961-63, back off ⅙ to ¼ turn and install cotter pin, or retainer. 1964, initial torque 25-30 ft. lb.; back off nut ½ turn. Retighten nut finger-tight and install retainer. All years, torque adjustment should be made when wheel is turning at least 3 times speed of nut rotation

BRAKE ADJUSTMENT
With the brakes cold, if the brake pedal can be depressed more than 4" with standard brakes or more than 1⅞" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:*
1. Using a suitable tool inserted into the backing plate adjusting slot, expand the shoes until a heavy uniform drag is felt when revolving the brake drum
2. Back off adjustment 16 notches. Drum should turn freely
3. Repeat operation at each wheel

* 1962 power brakes and all 1963-64 brakes are self-adjusting. DO NOT attempt to manually adjust the shoe clearance on these cars
Bleeding sequence: LF, RF, LR, RR With power brakes, engine must be stopped and vacuum reserve depleted

KEY TO INTERVALS
[★] Every crankcase oil change
[2] Every 2,000 miles
[4] Every 4,000 miles
Oil Filter 1961-62: Every 4,000 miles or 6 months
[6] Every 6,000 miles or 6 months
[8] Every 8,000 miles
[10] Every 10,000 miles
[12] Every 12,000 miles or 4 months
PCV System: Every 12,000 miles or 12 months
[16] Every 16,000 miles
[18] Every 18,000 miles or 18 months
[24] Every 24,000 miles or 24 months
[30] Every 30,000 miles or 30 months
[C] Conditional service
1962, lubricate front suspension when seals are damaged or ball joints noisy
Coat parking brake cables and brake backing plate shoe contacts at time of major brake service
Service fuel filter as required
Repack front wheel bearings at time of major brake service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS
AF Automatic Transmission Fluid Type A, Suffix A
Power Steering Reservoir: 1964 models, if more than 1 pt. of fluid is required, use PS
BJ Suspension Lubricant
Oldsmobile Part No. 585617
CL Chassis Lubricant
Water Resistant EP Type
HB Hydraulic Brake Fluid, Heavy-Duty
GM Brake Fluid Super No. 11
LM Lithium Grease
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
PS Power Steering Fluid
GM Part No. 1099021
SP Speedometer Cable Grease
WB Wheel Bearing Grease

* Standard differential, MP meeting Specification MIL-L-2105B or special lubricant Part No. 531536; Anti-Spin differential, special lubricant Part No. 531536

OLDSMOBILE F-85 V-6

1964 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	61

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
All .... minimum 100
Lowest cylinder pressure should be within 80% of highest cylinder

SPARK PLUGS

AC 44S
Gap: .030"
Torque: 35 ft. lb.

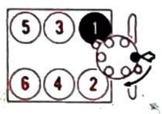
IGNITION POINTS

Delco
Gap: .016"
Dwell angle: 28°-32° (30° preferred)

CONDENSER

Delco
Capacity: .18-.23 mfd

Cylinder Numbering Sequence

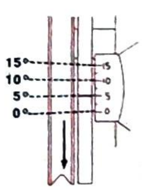


Firing Order: 1, 6, 5, 4, 3, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Disconnect distributor vacuum line and tape manifold opening
3. Connect tachometer
4. Connect timing light to No. 1 spark plug
5. Set engine speed to idle rpm with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 5°

FUEL PUMP

AC model JU
Pressure: 4-5¼ lb. at idle rpm
Volume: Not required

CARBURETOR ADJUSTMENT

ROCHESTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
1-bbl. 1BC	1-1½	index	index

ENGINE IDLE SPEED

Manual Trans. 550 rpm
Auto. Trans. 550 rpm in DRIVE
Air Cond. 600 rpm in DRIVE with unit turned OFF and idle compensator held closed, if so equipped

VALVE CLEARANCES

Hydraulic lifters. nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models with air conditioning..	11¼	10½
All other models....	10¾	10

Cooling system pressure, 15 pounds

★ **Manual Steering Gear** (plug) .... 80 MP

★ **Power Steering Reservoir** .... AF, PS
Fill to level mark, fluid at operating temperature

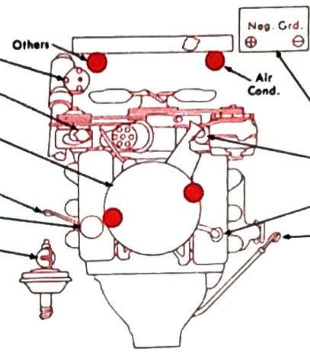
Air Cleaner Element .... Service
12 Washable type... Wash and oil 10W-30 MO

Crankcase Dipstick .... Check level

★ **Oil Fill Cap** .... Wash and oil 10W-30 MO

★ **Brake Master Cylinder** (cap) .... HB
Fill to ¼ inch below top of reservoir

Chek-Chart



CRANKCASE .... "MS" MO

Above +32°	20,20W◆	10W-30
Above 0°	10W	5W-20
Below 0°	5W▲	5W-20

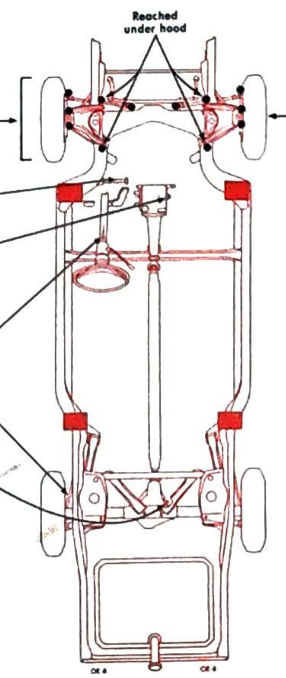
◆ 30 may be used above +90°
▲ 5W not recommended for sustained high speed above +60°
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill ★

Oil Filter (under car) .... Replace 6
Add extra quart oil

PCV System Valve .... Replace 6
Also remove and clean hose

TRANSMISSION, Automatic .. AF
Check level, engine idling at operating temperature, PARK position .... ★
CAPACITY, approx. 3 quarts
DRAIN and REFILL 24
Remove oil pan



6 **Front Suspension and Steering Linkage** ...... (12 fittings) CL

★ **Clutch Release Bell Crank** (felt) .... MO

TRANSMISSION, Manual . 80 MP
★ Maintain level to fill plug hole
CAPACITY 3-speed, 2 pints; 4-speed, 2¼ pints
DRAIN and REFILL Not recommended

24 **Speedometer Cable** .... Coat lower ⅔ SP

C **Parking Brake Cables** .... Coat LM

DIFFERENTIAL .... 90 MP•
★ Maintain level to fill plug hole
CAPACITY 2¾ pints
DRAIN and REFILL Not recommended
ANTI-SPIN IDENTIFICATION:
Lubrication tag attached to rear cover

GAS TANK .... Gallons
All models 20

TIRES .... Pressure

	Front	Rear
6.50-14	24	24*
7.00-14	24	24*
7.50-14	24	24*

* Station wagons carrying heavy loads, add 4 pounds

6 Rotate tires, Method A

Front Wheel Bearings .... Repack WB C
Initial torque, 25-30 ft. lb.; back off nut ½ turn and tighten nut finger-tight and install retainer. Torque adjustments should be made with the wheel turning at least 3 times the speed of nut rotation

BRAKE ADJUSTMENT

Brakes are self-adjusting. DO NOT attempt to manually adjust the brakes on these cars
Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ Every crankcase oil change
6 Every 6,000 miles or 6 months
12 Every 12,000 miles or 4 months
24 Every 24,000 miles or 24 months
C Conditional service
Coat parking brake cables and brake backing plate shoe contacts at time of major brake service
Repack front wheel bearings at time of major brake service

■ Position for lift adapter
● Lubrication fitting
● Cooling system drain

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
Power Steering Reservoir: If more than 1 pt. of fluid is required, use PS
CL Chassis Lubricant
Water Resistant EP Type
HB Hydraulic Brake Fluid, Heavy-Duty
GM Brake Fluid Super No. 11
LM Lithium Grease
MO Motor Oil
MP• Multi-Purpose Gear Lubricant
PS Power Steering Fluid
GM Part No. 1099021
SP Speedometer Cable Grease
WB Wheel Bearing Grease

• Standard differential, MP meeting Specification MIL-L-2105B or special lubricant Part No. 531536; Anti-Spin differential, special lubricant Part No. 531536

OLDSMOBILE F-85 V-8

1964 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	61

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
All . . . . minimum 100
Lowest cylinder pressure should be within 80% of highest cylinder

SPARK PLUGS

AC: Low comp. 45S; High comp. 44S
Gap: .030"
Torque: 35 ft. lb.

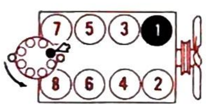
IGNITION POINTS

Delco
Gap: .016"
Dwell angle: 28°-32° (30° preferred)

CONDENSER

Delco
Capacity: .18-.23 mfd

Cylinder Numbering Sequence

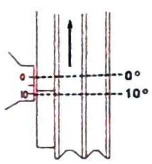


Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed to 850 rpm, transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
7½° at 850 rpm

FUEL PUMP

AC mechanical
Pressure: 7-8½ lb. at idle to 1000 rpm
Volume: Not required

CARBURETOR ADJUSTMENT

ROCHESTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
2-bbl. 2GC	1½	1 lean	1 lean
4-bbl. 4GC	1½	index	index

ENGINE IDLE SPEED

Manual Trans. 600 rpm
Auto. Trans. 500 rpm in DRIVE
Air Cond. 550 rpm in DRIVE with unit turned OFF and idle compensator valve held closed (Dealer installed unit turned ON)

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

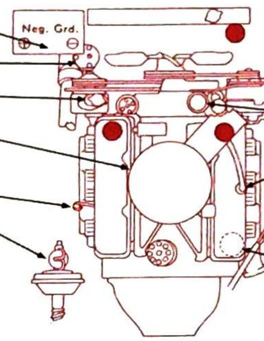
Chek-Chart

COOLING SYSTEM . . . Quarts

	With Heater	Without Heater
All models with air conditioning	19¼	18½
All other models	17	16¼

Cooling system pressure, 15 pounds

★ Battery . . . . Test and fill
★ Manual Steering Gear (plug) . . . . 80 MP
★ Power Steering Reservoir . . . . . AF, PS
Fill to level mark, fluid at operating temperature
Air Cleaner Element . . . . Service
18 Dry type . . . . Replace
Crankcase Dipstick . . . . . . Check level
★ Brake Master Cylinder (cap) . . . . HB
Fill to ¼ inch below top of reservoir



CRANKCASE . . . . . . "MS" MO

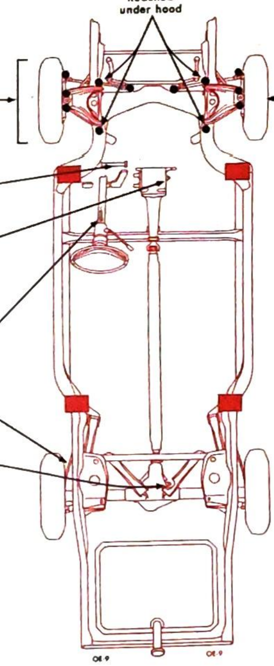
Above +32°	20,20W◆	10W-30
Above 0°	10W	5W-20
Below 0°	5W▲	5W-20

◆ 30 may be used above +90°
▲ 5W not recommended for sustained high speed above +60°
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap . . . . . Wash and oil 10W-30 MO ★
PCV System . . . . Clean 12
Disassemble and clean all parts

TRANSMISSION, Automatic . AF
Check level, engine idling at operating temperature, PARK position . . . . ★
CAPACITY, approx. 3 quarts
DRAIN and REFILL 24
Remove oil pan

Oil Filter (under car) . . . . . Replace 6
Add extra quart oil



6 Front Suspension and Steering Linkage . . . . (12 fittings) CL

Front Wheel Bearings . . . . . Repack WB C
Initial torque, 25-30 ft. lb.; back off nut ½ turn and retighten nut finger-tight, reinstall retainer. Torque adjustments should be made with the wheel turning at least 3 times the speed of nut rotation

★ Clutch Release Bell Crank (felt) . . . MO

TRANSMISSION, Manual 80 MP
★ Maintain level to fill plug hole
CAPACITY 3-speed, 2 pints; 4-speed, 2¼ pints
DRAIN and REFILL Not recommended

24 Speedometer Cable . . . Coat lower ⅔ SP

C Parking Brake Cables . . . . Coat LM

DIFFERENTIAL . . . . 90 MP*
★ Maintain level to fill plug hole
CAPACITY 2¾ pints
DRAIN and REFILL Not recommended
ANTI-SPIN IDENTIFICATION:
Lubrication tag attached to rear cover

GAS TANK . . . . . Gallons
All models 20

TIRES

	Pressure Front	Rear
7.00-14	24	24*
7.50-14	24	24*

* Station wagons carrying heavy loads, add 4 pounds

6 Rotate tires, Method A

BRAKE ADJUSTMENT

Brakes are self-adjusting. DO NOT attempt to manually adjust the brakes on these cars
Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ Every crankcase oil change
6 Every 6,000 miles or 6 months
12 Every 12,000 miles or 12 months
18 Every 18,000 miles or 18 months
24 Every 24,000 miles or 24 months
C Conditional service
Coat parking brake cables and brake backing plate shoe contacts at time of major brake service
Repack front wheel bearings at time of major brake service

■ Position for lift adapter
• Lubrication fitting
● Cooling system drain

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
Power Steering Reservoir: If more than 1 pt. of fluid is required, use PS
CL Chassis Lubricant
Water Resistant EP Type
HB Hydraulic Brake Fluid, Heavy-Duty
GM Brake Fluid Super No. 11
LM Lithium Grease
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
PS Power Steering Fluid
GM Part No. 1099021
SP Speedometer Cable Grease
WB Wheel Bearing Grease

* Standard differential, MP meeting Specification MIL-L-2105B or special lubricant Part No. 531536; Anti-Spin differential, special lubricant Part No. 531536

PLYMOUTH 6

1960-61 All Models
Except Valiant

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1960	24H	50
	27H	70
1961	24H	50
	27H	70

COMPRESSION PRESSURE

(psi at cranking speed, throttle open)

	min.	max.
All	130	160*

* Maximum variation between cylinders, 20 psi

SPARK PLUGS

Champion N-12Y
Gap: .035"
Torque: 30 ft. lb.

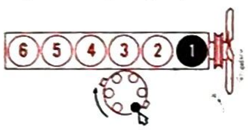
IGNITION POINTS

Autolite, 1960; Chrysler, 1961
Gap: .017"-.023"
Dwell angle: 1960, 36°-42°; 1961, 40°-45°

CONDENSER

Autolite, 1960; Chrysler, 1961
Capacity: .25-.285 mfd

Cylinder Numbering Sequence

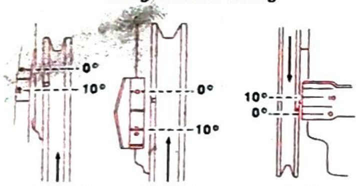


Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed to 475-500 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
Manual Trans. 2½°; Auto. Trans. 5°

FUEL PUMP

Carter model M-2996S
Pressure: 3½-5 lb. at 500 rpm
Volume: 1 quart per minute at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
BALL & BALL 1-bbl. BBS	1	index	index

ENGINE IDLE SPEED

Manual Trans. 550 rpm with headlights on high beam
Auto. Trans. 500 rpm in NEUTRAL with headlights on high beam
Air Cond. 550 rpm in NEUTRAL with unit turned ON and headlights on high beam

VALVE CLEARANCES

(engine hot and running)
Intake .010"; exhaust .020"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
1960	14	13
1961	13	12

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

Chek-Chart

★ Power Steering Reservoir .... PS
Fill to level mark on gage. Without gage, to base of filler neck when cold, halfway when hot

★ Battery .... Test and fill
Caution: Do not ground positive terminal

★ Generator (2 oil cups) .... MO
Alternator, right side, no lubrication

Crankcase Dipstick .... Check level

★ Manifold Heat Control Valve Shaft .... MH

Air Cleaner Element .... Service
5 Dry type .... Clean
15 Dry type .... Replace

★ Manual Steering Gear (plug) .... MP
Above −10°, 90; below −10°, 80; below −30°, 75

★ Brake Master Cylinder (cover) .... HB
Fill to ¼ inch below top of reservoir

★ Front Suspension and Steering Linkage .... (8 fittings) CL

★ Gearshift Rod Shift Levers CL

★ Torque Shaft CL

TRANSMISSION, Manual ..... AF

★ Maintain level to fill plug hole
CAPACITY 5 pints; refill approx., 4 pints
20 DRAIN and REFILL

10 Gearshift Lever .... WG
Remove rubber boot below steering wheel, pivot-pin assembly, then lever. Coat sparingly ball end of lever, pivot-pin hole and surrounding area. Reassemble

20 Universal Joints .... Repack UJ
Use only 2 ounces in front joint

DIFFERENTIAL .... MP*

Above −10°, 90; below −10°, 80; below −30°, 75
★ Maintain level ½ inch below fill plug hole
CAPACITY 3½ pints
20 DRAIN and REFILL
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK .... Gallons

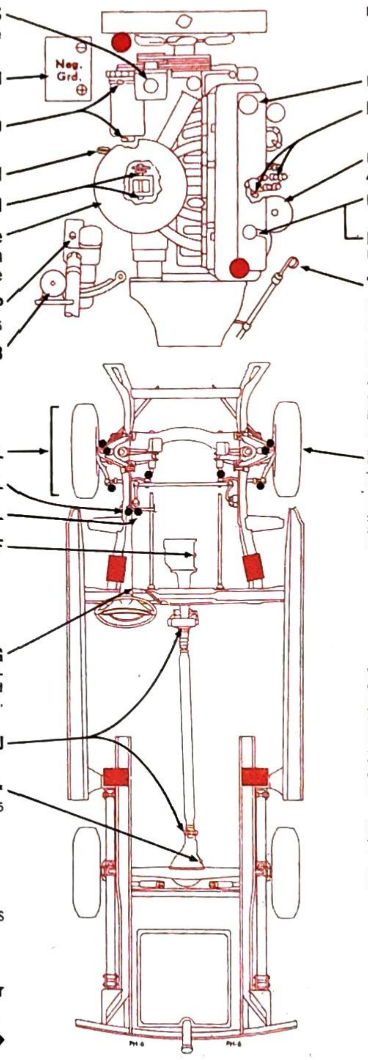
Suburban	21
Optional for fleets	23
All other models	20

TIRES

Pressure	Front	Rear
7.00-14	24	24
7.50-14	22	22*
8.00-14	24	24◆

* Station wagon, 24; with heavy load, 28
◆ Heavy load, 28
For Captive-Air tires inner chamber pressure must be 4 to 6 pounds higher than outer chamber pressure shown

6 Rotate tires, Method B, then balance wheels
Captive-Air tires, Method C



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	30	20W-40, 10W-30
Above +10°	20W	10W-30
Above −10°	10W	10W-30, 5W-20
Below −10°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap .... Wash and oil 30 MO ★
Distributor Shaft (oil cup) .... MO ★
Wick under rotor .... Sparingly MO 10
Oil Filter .... Replace 4
Add extra quart oil
Crankcase Breather Outlet Element .... Wash and oil 30 MO ★
PCV System Valve .... CC 10
Disassemble and clean

TRANSMISSION, Automatic .. AF

Check level, engine idling and thoroughly warm, NEUTRAL position .... ★
To overcome difficult starting below −10°, replace ¾ quart fluid with kerosine

CAPACITY, quarts	Initial Refill	Total Refill
All models	4	7

DRAIN and REFILL 10
Remove 1 converter plug and transmission plug
Drain more frequently under severe service

Front Wheel Bearings .... Check WB 10
Clean and repack if necessary
Tighten front wheel adjusting nut to 90 in. lb., position lock nut over adjusting nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Two adjustment cams are provided on each backing plate. To tighten, turn both front brake cams and rear brake front cam in direction of forward wheel rotation. Tighten rear brake rear cam in opposite direction
Adjust the brakes as follows:
1. Turn one adjustment cam until heavy drag is felt when wheel is turned
2. Slowly back off cam until no drag is felt
3. Repeat steps 1 and 2 for other adjustment cam
4. Repeat steps 1, 2 and 3 for each brake

Bleeding sequence: RR, LR, RF, LF When bleeding front brakes, bleed lower cylinder first

KEY TO INTERVALS

★ Every 2,000 miles
4 Every 4,000 miles
5 Every 5,000 miles
6 Every 6,000 miles
10 Every 10,000 miles
15 Every 15,000 miles
20 Every 20,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A	**MH** Manifold Heat Control Valve Solvent MoPar Part No. 1879318	**PS** Power Steering Fluid MoPar Part No. 2084329	
CC Carburetor Cleaner	**MO** Motor Oil	**UJ** Universal Joint Grease	
CL Chassis Lubricant	**MP*** Multi-Purpose Gear Lubricant Meeting Specification MIL-L-2105B	**WB** Wheel Bearing Grease	
HB Hydraulic Brake Fluid, Heavy-Duty MoPar Hi-Temp Brake Fluid		**WG** White Waterproof Grease	

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

PLYMOUTH V-8

1960-61 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1960 with Commando eng.	24H	60
Others	24H	50
	27H	70
1961	24H	59
	27H	70

COMPRESSION PRESSURE

(psi at cranking speed, throttle open)	min.	max.
1960 with Commando engine	150	180*
1961 with 383 Commando engine	150	180*
Others	135	165**

* Maximum variation between cylinders, 25 psi
** Maximum variation between cylinders, 20 psi

SPARK PLUGS

Champion; Commando engine, J-9Y; others, J-12Y
Gap: .035"
Torque: 30 ft. lb.

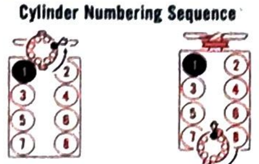
IGNITION POINTS

Autolite: All 1960, 1961 with Commando engine; Chrysler, other 1961
Gap: .014"-.019"
Dwell angle: Single or dual points, 27°-32°; dual points, total dwell, 38°-40°

CONDENSER

Autolite: All 1960, 1961 with Commando engine; Chrysler, other 1961
Capacity: .25-.285 mfd

Cylinder Numbering Sequence

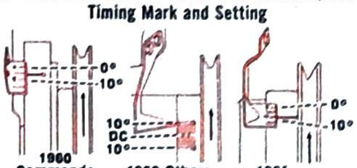


Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed to 475-500 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):

318 engine with Manual Trans.	5°
1960 with two carburetors	5°
1961 with 383 engine	7½°
Others	10°

FUEL PUMP

Carter model: 318 engine, M-2608S; with Air Cond., M-2611S; Commando engine, M-2769S
Pressure: M-2769S, 3½-5 lb. at 500 rpm; others, 5-7 lb. at idle rpm
Volume: 1 quart per minute at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
BALL & BALL			
2-bbl. BBD	1	index	index
CARTER			
4-bbl. AFB-2903S	1½	1 rich	1 rich
4-bbl. AFB-2968S, -3133S	1½	2 rich	2 rich
Other AFB	1½	index	index
STROMBERG			
2-bbl. WW15	1¼	index	index

ENGINE IDLE SPEED

Manual Trans. 500* rpm, headlights on high beam
Auto. Trans. 500* rpm in NEUTRAL with headlights on high beam
Air Cond. 550* rpm in NEUTRAL with unit turned ON and headlights on high beam
* With (2) 4-bbl. carburetors, 750 rpm

VALVE CLEARANCES

(engine hot and running)
Commando eng.: Hydraulic lifters, nonadjustable
318 engine, 1960: Intake .010"; exhaust .018"
1961: Intake .013"; exhaust .021"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
Commando engine	17	16
All other models	21	20

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

Chek-Chart

CRANKCASE .... "MS" MO

Above +32°	30	20W-40, 10W-30
Above +10°	20W	10W-30
Above −10°	10W	10W-30, 5W-20
Below −10°	5W	5W-20

CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

★ **Battery** .... Test and fill
Caution: Do not ground positive terminal

★ **Power Steering Reservoir** .... PS
Fill to level mark on gage. Without gage, to base of filler neck when cold, halfway when hot

★ **Oil Fill Cap** .... Wash and oil 30 MO

Air Cleaner Element .... Service
5 Dry type .... Clean
15 Dry type .... Replace

★ **Manual Steering Gear (plug)** .... MP
Above −10°, 90; below −10°, 80; below −30°, 75

★ **Distributor Shaft (oil cup)** .... MO
Commando engine, right side front
10 Wick under rotor .... Sparingly MO

★ **Brake Master Cylinder (cover)** .... HB
Fill to ¼ inch below top of reservoir

★ **Front Suspension and Steering Linkage** .... (8 fittings) CL

★ **Gearshift Rod Shift Levers** CL

★ **Torque Shaft** CL

TRANSMISSION, Manual .... AF

★ Maintain level to fill plug hole
CAPACITY: Early 1960 2¾ pints; 1961, late 1960 5 pints, refill approx. 4 pints. With Commando engine, 1960 3½ pints; 1961 4¼ pints, refill approx. 3½ pints
20 DRAIN and REFILL

10 **Gearshift Lever** .... WG
Remove rubber boot below steering wheel, pivot-pin assembly, then lever. Coat sparingly ball end of lever, pivot-pin hole and surrounding area. Reassemble

20 **Universal Joints** .... Repack UJ
Use only 2 ounces in front joint

DIFFERENTIAL .... MP*

Above −10°, 90; below −10°, 80; below −30°, 75
★ Maintain level ½ inch below fill plug hole
CAPACITY 4 pints
20 DRAIN and REFILL
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK .... Gallons

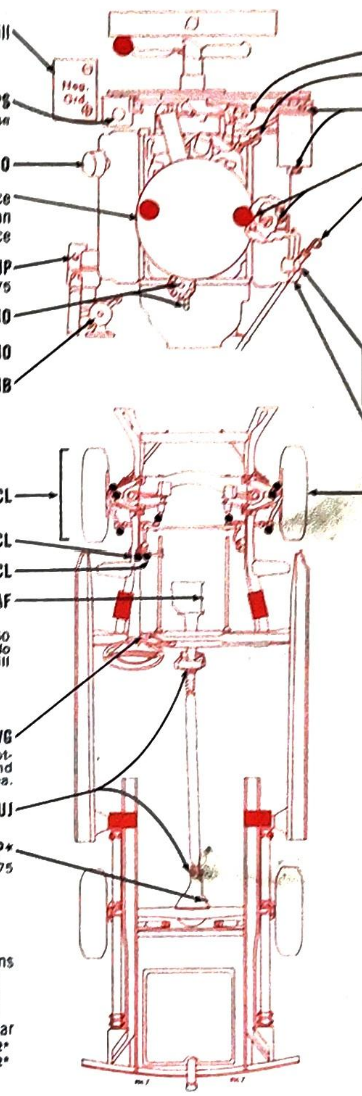
Suburban	21
Optional for fleets	23
All other models	20

TIRES

Pressure	Front	Rear
7.50-14	24	22*
8.00-14	22◆	22*

* Station wagon, 24; with heavy load, 28
◆ Station wagon, 24
For Captive-Air tires inner chamber pressure must be 4 to 6 pounds higher than outer chamber pressure shown

6 Rotate tires, Method B, then balance wheels
Captive-Air tires, Method C



Position for lift adapter
Lubrication fitting
Cooling system drain

Fuel Filter Element .... Replace 23

Crankcase Dipstick .... Check level
Commando engine, left side

Generator (2 oil cups) .... MO ★
Left side on air-conditioned models, except with Commando engine. Alternator, no lubrication

Manifold Heat Control Valve Shaft .... MH ★

TRANSMISSION, Automatic .. AF

Check level, engine idling and thoroughly warm, NEUTRAL position .... ★
PowerFlite: To overcome difficult starting below −10°, replace 1 quart fluid with kerosine

CAPACITY, quarts	Initial Refill	Total Refill
PowerFlite	5	10
TorqueFlite		
Golden Commando engine	5	10½
All other models	5	9

DRAIN and REFILL 10
Remove 1 converter plug and disconnect fill pipe
Drain more frequently under severe service

Crankcase Breather Outlet Element .... Wash and oil 30 MO ★

PCV System Valve .... CC 10
Disassemble and clean

Oil Filter (under car) .... Replace 4
Add extra quart oil
Commando engine, left side front

Front Wheel Bearings .... Check WB 10
Clean and repack if necessary
Tighten front wheel adjusting nut to 90 in. lb., position lock nut over adjusting nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Two adjustment cams are provided on each backing plate. To tighten, turn both front brake cams and rear brake front cam in direction of forward wheel rotation. Tighten rear brake rear cam in opposite direction
Adjust the brakes as follows:

1. Turn one adjustment cam until heavy drag is felt when wheel is turned
2. Slowly back off cam until no drag is felt
3. Repeat steps 1 and 2 for other adjustment cam
4. Repeat steps 1, 2 and 3 for each brake

Bleeding sequence: RR, LR, RF, LF When bleeding front brakes, bleed lower cylinder first

KEY TO INTERVALS

★ Every 2,000 miles
4 Every 4,000 miles
5 Every 5,000 miles
6 Every 6,000 miles
10 Every 10,000 miles
15 Every 15,000 miles
20 Every 20,000 miles
23 Every 23,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CC Carburetor Cleaner
CL Chassis Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty — MoPar Hi-Temp Brake Fluid
MH Manifold Heat Control Valve Solvent — MoPar Part No. 1879318
MO Motor Oil
MP* Multi-Purpose Gear Lubricant — Meeting Specification MIL-L-2105B
PS Power Steering Fluid — MoPar Part No. 2084329
UJ Universal Joint Grease
WB Wheel Bearing Grease
WG White Waterproof Grease

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

PLYMOUTH-VALIANT

1960-61 All Models

1960 1961

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY	AABM Group No.	Amp. Hrs.
1960	24H	50
	27H	70
1961	24H	50
	27H	70

COMPRESSION PRESSURE

(psi at cranking speed, throttle open) min. max.

All 130 160*

* Maximum variation between cylinders, 20 psi

SPARK PLUGS

Champion N-12Y
Gap: .035"
Torque: 30 ft. lb.

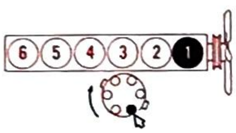
IGNITION POINTS

Autolite, 1960; Chrysler, 1961
Gap: .017"-.023"
Dwell angle: 1960, 36°-42°; 1961, 40°-45°

CONDENSER

Autolite, 1960; Chrysler, 1961
Capacity: .25-.285 mfd

Cylinder Numbering Sequence

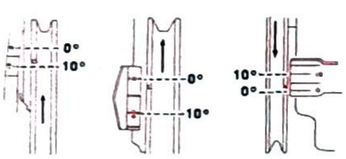


Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed to 475-500 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



1960 early 1960 late 1961

Timing Setting (Before Top Dead Center): 2½°

FUEL PUMP

Carter model M-2996S
Pressure: 3½-5 lb. at 500 rpm
Volume: 1 quart per minute at 500 rpm

CARBURETOR ADJUSTMENT

BALL & BALL	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
1-bbl. BBS	1	index	index

ENGINE IDLE SPEED

Manual Trans. 550 rpm with headlights on high beam
Auto. Trans. 500 rpm in NEUTRAL with headlights on high beam
Air Cond. 550 rpm in NEUTRAL with unit turned ON and with headlights on high beam

VALVE CLEARANCES

(engine hot and running)
Intake .010"; exhaust .020"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	12	11

Cooling system pressure, 14 pounds

★ Power Steering Reservoir .... PS
Fill to level mark on gage. Without gage, to base of filler neck when cold, halfway when hot

★ Battery .... Test and fill
Caution: Do not ground positive terminal

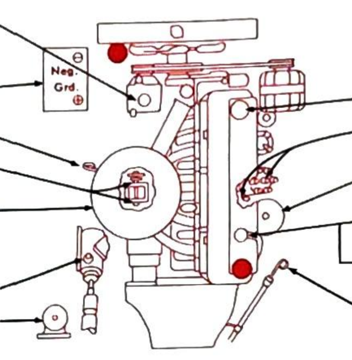
Crankcase Dipstick .... Check level

★ Manifold Heat Control Valve Shaft .... MH
Not on Hyper Pack engine

Air Cleaner Element .... Service
5 Dry type .... Clean
15 Dry type .... Replace

★ Manual Steering Gear (plug) .... SG

★ Brake Master Cylinder (plug) .... HB
Fill to ¼ inch below top of fill hole



CRANKCASE .... "MS" MO

Above +32°	30	20W-40, 10W-30
Above +10°	20W	10W-30
Above −10°	10W	10W-30, 5W-20
Below −10°	5W	5W-20

CAPACITY 4 quarts; Hyper Pack engine with oil cooler, 4¼ quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap .... Wash and oil 30 MO ★

Distributor Shaft (oil cup) .... MO ★
Wick under rotor .... Sparingly MO 10

Oil Filter .... Replace 4
Add extra quart oil

Crankcase Breather Outlet Element ...... Wash and oil 30 MO ★

PCV System Valve .... CC 10
Disassemble and clean

TRANSMISSION, Automatic .. AF

Check level, engine idling and thoroughly warm, NEUTRAL position .... ★
To overcome difficult starting below −10°, replace ¾ quart fluid with kerosine

CAPACITY, quarts	Initial Refill	Total Refill
All models	4	7

DRAIN and REFILL 10
Remove 1 converter plug and transmission plug
Drain more frequently under severe service

★ Front Suspension and Steering Linkage .... (9 fittings) CL

★ Torque Shaft CL

TRANSMISSION, Manual ..... AF

★ Maintain level to fill plug hole
CAPACITY 5 pints, refill approx. 4 pints
20 DRAIN and REFILL

10 Gearshift Lever .... MO
Remove rubber boot from floor panel, apply lubricant to pivot points and yoke selector mechanism

20 Universal Joint .... Repack, 2 oz. only UJ

20 Universal Joint .... Repack UJ

DIFFERENTIAL .... MP

Above −10°, 90; below −10°, 80; below −30°, 75
★ Maintain level to fill plug hole
CAPACITY 2 pints
20 DRAIN and REFILL

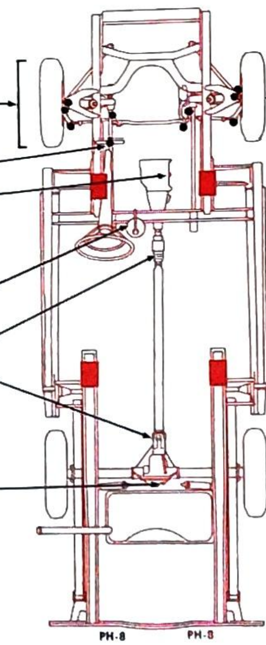
GAS TANK .... Gallons

All models 13

TIRES .... Pressure Front Rear

6.50-13 .... 24 24*
* Suburban: 3-seat, 2-seat fully loaded, 28
For Captive-Air tires inner chamber pressure must be 4 to 6 pounds higher than outer chamber pressure shown

6 Rotate tires, Method B, then balance wheels
Captive-Air tires, Method C



Position for lift adapter
Lubrication fitting
Cooling system drain

Front Wheel Bearings .... Check WB 10
Clean and repack if necessary
Tighten front wheel adjusting nut to 70 in. lb., position lock nut over adjusting nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated

Adjust the brakes as follows:

1. Using a suitable tool inserted into rear adjustment hole in backing plate, expand shoes until light drag is felt when rotating wheel
2. Back off adjustment 10-12 notches or until all drag is eliminated
3. Repeat steps 1 and 2 for each brake

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ Every 2,000 miles
4 Every 4,000 miles
5 Every 5,000 miles
6 Every 6,000 miles
10 Every 10,000 miles
15 Every 15,000 miles
20 Every 20,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A, Suffix A
- **CC** Carburetor Cleaner
- **CL** Chassis Lubricant
- **HB** Hydraulic Brake Fluid, Heavy-Duty — MoPar Hi-Temp Brake Fluid
- **MH** Manifold Heat Control Valve Solvent — MoPar Part No. 1879318
- **MO** Motor Oil
- **MP** Multi-Purpose Gear Lubricant — Meeting Specification MIL-L-2105B
- **PS** Power Steering Fluid — MoPar Part No. 2084329
- **SG** Steering Gear Lubricant
- **UJ** Universal Joint Grease
- **WB** Wheel Bearing Grease


1962


1963

PLYMOUTH 6

1962-63 All Models Except Valiant

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24H	48, 59

COMPRESSION PRESSURE

(psi at cranking speed, throttle open)

All 110-140*

* Maximum variation between cylinders, 20 psi

SPARK PLUGS

Champion: 1962, N-12Y; 1963, N-14Y*
Gap: .035"
Torque: 30 ft. lb.
* 1963, gasket not required

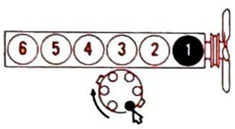
IGNITION POINTS

Chrysler
Gap: .017"-.023"
Dwell angle: 40°-45°

CONDENSER

Chrysler
Capacity: .25-.285 mfd

Cylinder Numbering Sequence

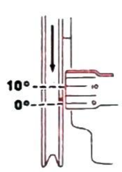


Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed to 475-500 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 2½°

FUEL PUMP

Carter model M-2996S
Pressure: 3½-5 lb. at 500 rpm
Volume: 1 quart per minute at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
BALL & BALL 1-bbl. BBS	1	2 rich*	2 rich*
HOLLEY 1-bbl. R	1	index**	index**
STROMBERG 1-bbl. WA3	¾-1	—	2 rich

* 1963, 4 rich
** 1963, 2 rich

ENGINE IDLE SPEED

Manual Trans. 550 rpm with headlights on high beam
Auto. Trans. 550 rpm in NEUTRAL with headlights on high beam
Air Cond. 550 rpm in NEUTRAL with unit turned ON and headlights on high beam

VALVE CLEARANCES

(engine hot and running)
Intake .010"; exhaust .020"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	13	12

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

[★] **Power Steering Reservoir** .... PS
Fill to base of filler neck when cold, halfway when hot

[OC] **Battery** .... Test and fill
Caution: Do not ground positive terminal

[16] **Fuel Filter** .... Replace

Crankcase Dipstick .... Check level

[★] **Manifold Heat Control Valve Shaft** .... MH

Air Cleaner Element .... Service
[8] Dry type .... Clean
[32] Dry type .... Replace

[TY] **Carburetor Choke Piston** CC
Remove air cleaner to service. On carburetor body, rear. Apply cleaner while moving choke valve back and forth

[★] **Manual Steering Gear** (plug) .... SG, LM

[★] **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir

[32] **Automatic Trans. Filter** (under car) ..... Replace
Replace at time of transmission drain

PCV System Valve CC
Remove and clean valve; also hose and carburetor, if passages are clogged
[TY] 1963 [8] 1962
Service more frequently under severe service

[8] **Crankcase Breather Outlet Element** 1962 .... Wash and oil 30 MO

Front Suspension .... (4 plugs) BJ
[★] Inspect seal, if damaged, replacement is necessary. After replacing seal or when lubricating, remove plug, use special gun or adapter. Install plug
[32] Relubricate using special adapter. Fill until grease flows from upper ball joint bleed holes or lower joint seal lower lip. Do not rupture seals. Reinstall plug

[★] **Steering Linkage** .... (4 sealed bearings)
Inspect seal, replace if damaged or worn

[32] **Torque Shaft** .... LM
Disassemble, clean and repack at both ends

TRANSMISSION, Manual ..... AF

[★] Maintain level to fill plug hole
CAPACITY 5 pints
DRAIN and REFILL
1963 Not recommended
[32] 1962

Universal Joints .... UJ
Front, 2 ounces, grade 2; rear, grade 0
[TY] 1963 .... Inspect
Inspect for leaks, replace seals if necessary
[32] 1963, repack if used under severe service
[32] 1962, repack under all service conditions

DIFFERENTIAL .... MP*

Above −10°, 90; below −10°, 80; below −30°, 75
[★] Maintain level ½ inch below fill plug hole
CAPACITY 4 pints
DRAIN and REFILL
[C] 1963 [32] 1962
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK .... Gallons

Suburban	21½
Optional for fleets	23
All other models	20

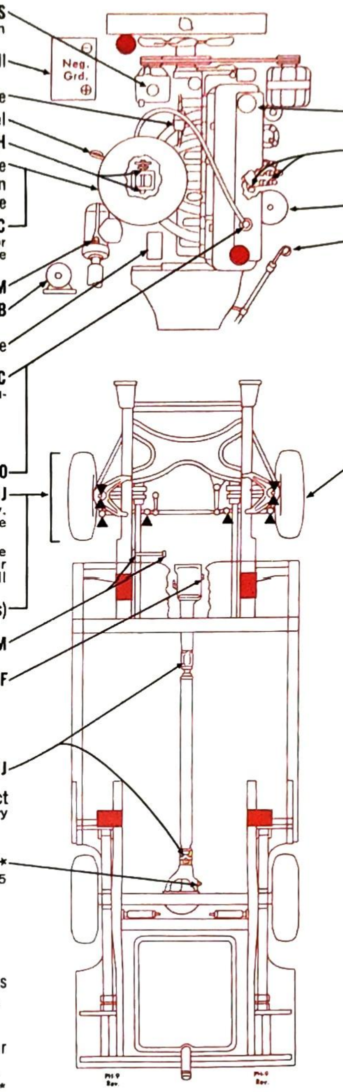
TIRES

	Pressure Front	Rear
6.50-14	24	24
6.70-15	24	24*
7.00-14, 1962	24	24**
7.00-14, 1963	24	22◆
7.50-14	24	22◆

*Station wagon with heavy load, 28
** Station wagon, 26
◆ Station wagon, 26; with heavy load, 28

Rotate tires, Method A, then balance wheels
[5] 1963 [8] 1962

Chek-Chart



■ Position for lift adapter
▲ Prepacked bearing
● Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	30	20W-40, 10W-30
Above +10°	20W	10W-30
Above −10°	10W	10W-30, 5W-20
Below −10°	5W*	5W-20

* 1963, 5W-20
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap .... Wash and oil 30 MO
1962 [8] 1963 [OC]

Distributor Shaft (oil cup) .... MO [★]
Wick under rotor .... Sparingly MO
1962 [12] 1963 [TY]

Oil Filter .... Replace [★]
Add extra quart of oil

TRANSMISSION, Automatic . AF

Check level, engine idling, NEUTRAL position .... [★]
To overcome difficult starting below −10°, replace 1½ pints fluid with kerosine. Do not dilute more than once during any one season

CAPACITY, quarts	Initial Refill	Total Refill
All models	4	7

DRAIN and REFILL
Remove 1 converter plug, transmission plug and parking sprag cavity plug; also, remove oil pan on 1963 without transmission plug
1963 Regular drain not recommended
Severe service drain every 32,000 miles; extremely severe service every 10,000 miles
Replace transmission filter at time of drain
1962 .... [32]

Front Wheel Bearings .... WB
Inspect .... [16]
1963, clean and repack .... [C]
1962, clean and repack .... [32]
Tighten front wheel adjusting nut to 90 in. lb., position lock nut over adjusting nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key
1963, final adjustment should be 0, no preload to .003" end play

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

[★] 1963, Twice yearly
1962, Every 4,000 miles
[5] Every 5,000 miles
[8] Every 8,000 miles
[12] Every 12,000 miles
[16] Every 16,000 miles
[32] Every 32,000 miles
[OC] Every crankcase oil change
[TY] Twice yearly
[C] Conditional service
1963, drain and refill differential for below −10° requirements
1963, clean and repack front wheel bearings if wheel is removed for service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant
MoPar Part No. 2298947
CC Carburetor Cleaner
HB Hydraulic Brake Fluid, Heavy-Duty
MoPar Hi-Temp Brake Fluid
LM Lithium Grease
MH Manifold Heat Control Valve Solvent
MoPar Part No. 1879318
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
Meeting Specification MIL-L-2105B
PS Power Steering Fluid
MoPar Part No. 2084329
SG Steering Gear Lubricant
UJ Universal Joint Grease
WB Wheel Bearing Grease

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

PLYMOUTH V-8

1962-63 All Models

1962

1963

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

(Following data does not include racing-type engines)

BATTERY

	AABM Group No.	Amp. Hrs.
All	24H	48, 59

COMPRESSION PRESSURE

(psi at cranking speed, throttle open)	min.	max.
1962 318 engine	120	150*
1963 318 engine	120	155*
1962-63 361 engine	125	155*
1962-63 383 eng. Manual Trans.	150	180**
1962-63 383 engine Automatic Trans.	130	165**

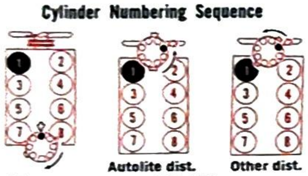
* Maximum variation between cylinders, 20 psi
** Maximum variation between cylinders, 25 psi

SPARK PLUGS
Champion: 383 eng. with 4-bbl. carb., J-9Y; others, J-12Y
Gap: .035"
Torque: 30 ft. lb.

IGNITION POINTS
Autolite, Chrysler, Prestolite
Gap: Autolite, Chrysler, .014"-.019"; Prestolite, .015"-.018"
Dwell angle: 1963 single points, Autolite, Chrysler, 28°-33°; Prestolite, 26°-32°; 1962 single points, 1962-63 each set of dual points, 27°-32°; dual points total dwell, 34°-40°

CONDENSER
Autolite, Chrysler, Prestolite
Capacity: .25-.285 mfd

Cylinder Numbering Sequence

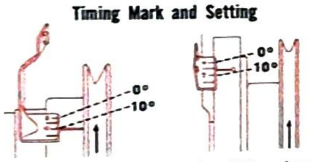


318 eng. — Autolite dist. — Other dist. — 361, 383 engs.

Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed to 500 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset idle speed

Timing Mark and Setting



318 engine — 361, 383 engines

Timing Setting (Before Top Dead Center):

318 engine: Manual Trans.	5°
Auto. Trans.	10°
4-bbl. carburetor	10°
361, 383 engines	10°

FUEL PUMP
Carter model: 318 engine, M-2608S; with Air Cond., M-2611S; 361, 383 engines, M-2769S
Pressure: M-2769S, 3½-5 lb.; others, 5-7 lb.; at idle rpm
Volume: 1 quart per minute at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
BALL & BALL 2-bbl. BBD	1*	index	index*
CARTER 4-bbl. AFB	1½	2 rich**	2 rich**
STROMBERG 2-bbl. WW3	1¼	index	index

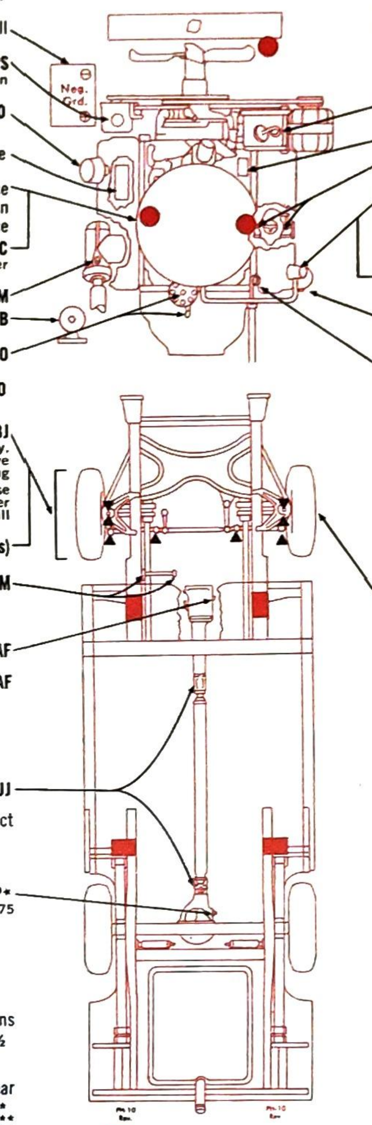
* 1963, 383 eng., ¾ turn idle mixture; 2 rich choke setting
** 1963, index

ENGINE IDLE SPEED
Manual Trans. 500 rpm, headlights on high beam
Auto. Trans. 500 rpm in NEUTRAL with headlights on high beam
Air Cond. 500 rpm in NEUTRAL with unit turned ON and headlights on high beam

VALVE CLEARANCES
(engine hot and running)
318 engine: Intake .013"; exhaust .021"
361, 383 engines: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart



COOLING SYSTEM .... Quarts

	With Heater	Without Heater
318-cu. in. engine	21	20
361-, 383-cu. in. engines	17	16

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

OC **Battery** .... Test and fill
Caution: Do not ground positive terminal

★ **Power Steering Reservoir** .... PS
Fill to base of filler neck when cold, halfway when hot

Oil Fill Cap .... Wash and oil 30 MO
OC 1963 8 1962

32 **Automatic Trans. Filter** (under car) .... Replace
Replace at time of transmission drain

Air Cleaner Element .... Service
8 Dry type .... Clean
32 Dry type .... Replace

TY **Carburetor Choke Piston** CC
Remove air cleaner to service. Apply cleaner while moving choke valve back and forth

★ **Manual Steering Gear** (plug) .... SG, LM

★ **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir

★ **Distributor Shaft** (oil cup) .... MO
361-, 383-cu. in. engines, right side front
Wick under rotor .... Sparingly MO
TY 1963 12 1962

Front Suspension .... (4 plugs) BJ
★ Inspect seal, if damaged, replacement is necessary. After replacing seal or when relubricating, remove plug, use special gun or proper adapter. Install plug
32 Relubricate using special adapter. Fill until grease flows from upper ball joint bleed holes or lower joint seal lower lip. Do not rupture seals. Reinstall plug

★ **Steering Linkage** .... (4 sealed bearings)
Inspect seal, replace if damaged or worn

32 **Torque Shaft** .... LM
Disassemble, clean and repack both ends

TRANSMISSION, Manual
★ Maintain level to fill plug hole
3-speed .... AF
CAPACITY 5 pints
4-speed .... MP, AF
Above +32°, 80MP; below +32°, AF
90MP may be used if 80 is not available
CAPACITY 3 pints
DRAIN and REFILL
1963 Not recommended
32 1962

Universal Joints .... UJ
Front, 2 ounces, grade 2; rear, grade 0
TY 1963 .... Inspect
Inspect for leaks, replace seals if necessary
32 1963, repack if used under severe service
32 1962, repack under all service conditions

DIFFERENTIAL .... MP*
Above −10°, 90; below −10°, 80; below −30°, 75
★ Maintain level to ½ inch below fill plug hole
CAPACITY 4 pints
DRAIN and REFILL
C 1963 32 1962
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK .... Gallons

Suburban	21½
Optional for fleets	23
All other models	20

TIRES .... Pressure

	Front	Rear
6.70-15	24	24*
7.00-14	24	22**
7.50-14	24	22**

* Station wagon with heavy load, 28
** Station wagon, 26; with heavy load, 28

Rotate tires, Method A, then balance wheels
5 1963 8 1962

CRANKCASE .... "MS" MO

Above +32°	30	20W-40, 10W-30
Above +10°	20W	10W-30
Above −10°	10W	10W-30, 5W-20
Below −10°	5W*	5W-20

* 1963, 5W-20
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Crankcase Dipstick .... Check level
361-, 383-cu. in. engines, left side

Fuel Filter .... Replace 16

Manifold Heat Control Valve Shaft .... MH ★
361-, 383-cu. in. engines, at rear of manifold

PCV System Valve CC
Remove and clean valve; also hose and carburetor, if passages are clogged
1962 8 1963 TY
Service more frequently under severe service

Crankcase Breather Outlet Element 1962 .... Wash and oil 30 MO 8

Oil Filter (under car) .... Replace ★
Add extra quart oil
361-, 383-cu. in. engines, left side front

TRANSMISSION, Automatic .. AF
Check level, engine idling and thoroughly warm, NEUTRAL position ★
To overcome difficult starting below −10°, replace 1½ pints fluid with kerosine. Do not dilute more than once during any one season

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	9

DRAIN and REFILL
Remove 1 converter plug, transmission plug and parking sprag cavity plug; also, remove oil pan on 1963 without transmission plug
1963 Regular drain not recommended
Severe service drain every 32,000 miles; extremely severe service every 10,000 miles
Replace transmission filter at time of drain
1962 32

Front Wheel Bearings .... WB
Inspect 16
1963, clean and repack C
1962, clean and repack 32
Tighten front wheel adjusting nut to 90 in. lb., position lock nut over adjusting nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter pin
1963, final adjustment should be 0, no preload to .003" end play

BRAKE ADJUSTMENT

Brakes are self-adjusting. No adjustment normally required
Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ 1963, Twice yearly
1962, Every 4,000 miles
5 Every 5,000 miles
8 Every 8,000 miles
12 Every 12,000 miles
16 Every 16,000 miles
32 Every 32,000 miles
OC Every crankcase oil change
TY Twice yearly
C Conditional service
1963, drain and refill differential for below −10° requirements
1963, clean and repack front wheel bearings if wheel is removed for service

Position for lift adapter
▲ Prepacked bearing
Cooling system drain

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant
MoPar Part No. 2298947
CC Carburetor Cleaner
HB Hydraulic Brake Fluid, Heavy-Duty
MoPar Hi-Temp Brake Fluid
LM Lithium Grease
MH Manifold Heat Control Valve Solvent
MoPar Part No. 1879318
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
Meeting Specification MIL-L-2105B
PS Power Steering Fluid
MoPar Part No. 2084329
SG Steering Gear Lubricant
UJ Universal Joint Grease
WB Wheel Bearing Grease

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

PLYMOUTH-VALIANT

1962-63 All Models

1962 1963

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	20H	38
	24H	48

COMPRESSION PRESSURE

(psi at cranking speed, throttle open) min. max.
All 110 140*
* Maximum variation between cylinders, 20 psi

SPARK PLUGS

Champion: 1962, N-12Y; 1963, N-14Y*
Gap: .035"
Torque: 30 ft. lb.
* 1963, gasket not required

IGNITION POINTS

Chrysler
Gap: .017"-.023"
Dwell angle: 40°-45°

CONDENSER

Chrysler
Capacity: .25-.285 mfd

Cylinder Numbering Sequence

Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed to 475-500 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting

Timing Setting (Before Top Dead Center): 2½°

FUEL PUMP

Carter model M-2996S
Pressure: 3½-5 lb. at 500 rpm
Volume: 1 quart per minute at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
BALL & BALL 1-bbl. BBS	1	2 rich*	2 rich*
HOLLEY 1-bbl. R	1	index**	index**
STROMBERG 1-bbl. WA3	¾-1	—	2 rich

* 1963, 4 rich
** 1963, 2 rich

ENGINE IDLE SPEED

Manual Trans. 550 rpm with headlights on high beam
Auto. Trans. 550 rpm in NEUTRAL with headlights on high beam
Air Cond. 550 rpm in NEUTRAL with unit turned ON and with headlights on high beam

VALVE CLEARANCES

(engine hot and running)
Intake .010"; exhaust .020"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
Super 225-cu. in. engine	13	12
All other models	12	11

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

[★] **Power Steering Reservoir** .... PS
Fill to base of filler neck when cold, halfway when hot

[OC] **Battery** .... Test and fill
Caution: Do not ground positive terminal

[16] **Fuel Filter** .... Replace

Crankcase Dipstick .... Check level

[★] **Manifold Heat Control Valve Shaft** .... MH

Air Cleaner Element .... Service
[8] Dry type .... Clean
[32] Dry type .... Replace

[TY] **Carburetor Choke Piston** CC
Remove air cleaner to service. Apply cleaner while moving choke valve back and forth

[★] **Manual Steering Gear** (plug) .... SG, LM

[★] **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir

[32] **Automatic Trans. Filter** (under car) .... Replace
Replace at time of transmission drain

PCV System Valve CC
Remove and clean valve; also hose and carburetor, if passages are clogged
[TY] 1963 [8] 1962
Service more frequently under severe service

[8] **Crankcase Breather Outlet Element** 1962 .... Wash and oil 30 MO

Front Suspension .... (4 plugs) BJ
[★] Inspect seal, if damaged, replacement is necessary. After replacing seal or when lubricating, remove plug, use special gun or adapter. Install plug
[32] Relubricate using special adapter. Fill until grease flows from upper ball joint bleed holes or lower joint seal lower lip. Do not rupture seals. Reinstall plug

[★] **Steering Linkage** .... (4 sealed bearings)
Inspect seal, replace if damaged or worn

[32] **Torque Shaft** .... LM
Disassemble, clean and repack at both ends

TRANSMISSION, Manual .... AF
[★] Maintain level to fill plug hole
CAPACITY 5 pints
DRAIN and REFILL
1963 Not recommended
[32] 1962

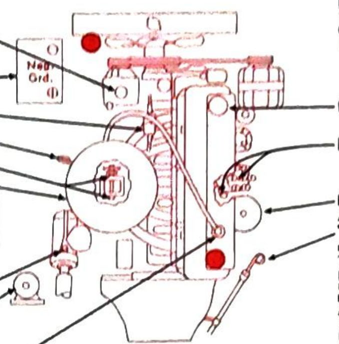
Universal Joints .... UJ
Front, 2 ounces, grade 2; rear, grade 0
[TY] 1963 .... Inspect
Inspect for leaks, replace seals if necessary
[32] 1963, repack if used under severe service
[32] 1962, repack under all service conditions

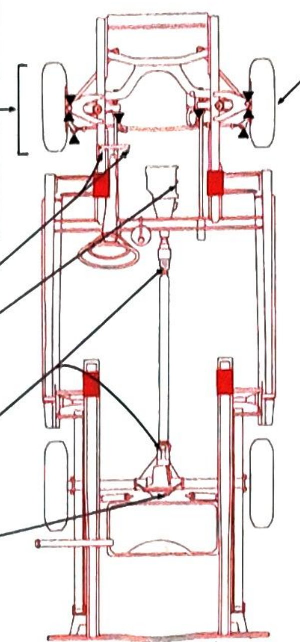
DIFFERENTIAL .... MP
Above −10°, 90; below −10°, 80; below −30°, 75
[★] Maintain level to fill plug hole
CAPACITY 2 pints
DRAIN and REFILL
[C] 1963 [32] 1962

GAS TANK .... Gallons
1963 18
1962 14

TIRES .... Pressure Front Rear
6.50-13 .... 24 24*
* Suburban: 3-seat, 2-seat fully loaded, 28
Rotate tires, Method A, then balance wheels
[5] 1963 [8] 1962

Chek-Chart





■ Position for lift adapter
• Lubrication fitting
● Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	30	20W-40, 10W-30
Above +10°	20W	10W-30
Above −10°	10W	10W-30, 5W-20
Below −10°	5W*	5W-20

* 1963, 5W-20
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap .... Wash and oil 30 MO
1962 [8] 1963 [OC]

Distributor Shaft (oil cup) .... MO [★]
Wick under rotor .... Sparingly MO
1962 [12] 1963 [TY]

Oil Filter .... Replace [★]
Add extra quart of oil

TRANSMISSION, Automatic .. AF [★]
Check level, engine idling, NEUTRAL position
To overcome difficult starting below −10°, replace 1½ pints fluid with kerosine. Do not dilute more than once during any one season
CAPACITY, quarts Initial Refill Total Refill
All models 4 7
DRAIN and REFILL
Remove 1 converter plug, transmission plug and parking sprag cavity plug; also, remove oil pan on 1963 without transmission plug
1963 Regular drain not recommended
Severe service drain every 32,000 miles; extremely severe service every 10,000 miles
Replace transmission filter at time of drain
1962 [32]

Front Wheel Bearings .... WB
Inspect .... [16]
1963, clean and repack .... [C]
1962, clean and repack .... [32]
Tighten front wheel adjusting nut to 70 in. lb., position lock nut over adjusting nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key
1963, final adjustment should be 0, no preload to .003" end play

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:

1. Using a suitable tool inserted into rear adjustment hole in backing plate, expand shoes until light drag is felt when rotating wheel
2. Back off adjustment 10-12 notches or until all drag is eliminated
3. Repeat steps 1 and 2 for each brake

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

[★] 1963, Twice yearly
1962, Every 4,000 miles
[5] Every 5,000 miles
[8] Every 8,000 miles
[12] Every 12,000 miles
[16] Every 16,000 miles
[32] Every 32,000 miles
[OC] Every crankcase oil change
[TY] Twice yearly
[C] Conditional service
1963, drain and refill differential for below −10° requirements
1963, clean and repack front wheel bearings if wheel is removed for service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant, MoPar Part No. 2298947
CC Carburetor Cleaner
HB Hydraulic Brake Fluid, Heavy-Duty, MoPar Hi-Temp Brake Fluid
LM Lithium Grease
MH Manifold Heat Control Valve Solvent, MoPar Part No. 1879318
MO Motor Oil
MP Multi-Purpose Gear Lubricant, Meeting Specification MIL-L-2105B
PS Power Steering Fluid, MoPar Part No. 2084329
SG Steering Gear Lubricant
UJ Universal Joint Grease
WB Wheel Bearing Grease

PLYMOUTH 6

1964 All Models Except Valiant

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24H	48

COMPRESSION PRESSURE

(psi at cranking speed, throttle open)	min.	max.
All	110	140*

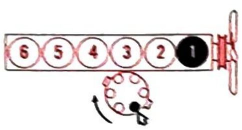
* Maximum variation between cylinders, 20 psi

SPARK PLUGS
Champion N-14Y*
Gap: .035"
Torque: 30 ft. lb.
* Gasket not required

IGNITION POINTS
Chrysler
Gap: .017"-.023"
Dwell angle: 40°-45°

CONDENSER
Chrysler
Capacity: .25-.285 mfd

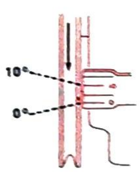
Cylinder Numbering Sequence



Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed to 475-500 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 2½°

FUEL PUMP
Carter model MS-3674S
Pressure: 3½-5 lb. at 500 rpm
Volume: 1 quart per minute at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
BALL & BALL 1-bbl. BBS	1	2 rich	2 rich
HOLLEY 1-bbl. R	1	2 rich	2 rich

ENGINE IDLE SPEED
Manual Trans. 550 rpm with headlights on high beam
Auto. Trans. 550 rpm in NEUTRAL with headlights on high beam
Air Cond. 550 rpm in NEUTRAL with unit turned ON and headlights on high beam

VALVE CLEARANCES
(engine hot and running)
Intake .010"; exhaust .020"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	13	12

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

[★] **Power Steering Reservoir** .... PS
Fill to base of filler neck when cold, halfway when hot

[★] **Battery** .... Check and fill
Caution: Do not ground positive terminal

[16] **Fuel Filter** .... Replace

Crankcase Dipstick .... Check level

[★] **Manifold Heat Control Valve Shaft** .... MH

Air Cleaner Element .... Service
[★] Dry type .... Clean
[2Y] Dry type .... Replace

[★] **Carburetor Choke Shaft** .... Clean CC
In carburetor air horn. Remove air cleaner to service

[★] **Manual Steering Gear** (plug) .... SG, LM

[★] **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir

Front Suspension and Steering Linkage .... (9 plugs) BJ
[★] Inspect seal; if damaged, replacement is necessary. After replacing seal, relubricate
[32] Relubricate using special adapter. Fill until grease flows from upper ball joint bleed holes or lower joint seal lower lip. Do not rupture seals. Reinstall plug

[32] **Torque Shaft** .... LM
Disassemble, clean and repack both ends

TRANSMISSION, Manual ..... AF
[★] Maintain level to fill plug hole
Severe service, check level every 4,000 miles or 2 months
CAPACITY 3½ pints
DRAIN and REFILL
Regular drain not recommended
Severe service, drain every 32,000 miles; extremely severe service, every 10,000 miles

[C] **Gearshift Lever** .... MO
Remove rubber boot from floor panel, apply lubricant to pivot points and yoke selector mechanism

Universal Joints .... UJ
Front, 2 ounces, grade 2; rear, grade 0
[★] Inspect for leaks, replace seals if necessary
Severe service, inspect every 4,000 miles or 2 months
[32] Repack if used under severe service

DIFFERENTIAL .... MP*
Above −10°, 90; below −10°, 80; below −30°, 75
[★] Maintain level ½ inch below fill plug hole (axle hoist); bottom of fill plug hole (frame hoist)
Severe service, check level every 4,000 miles or 2 months
CAPACITY 4 pints
DRAIN and REFILL
[C] Normal service [32] Severe service
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK .... Gallons

Suburban	21
Optional for fleets	23
All other models	19

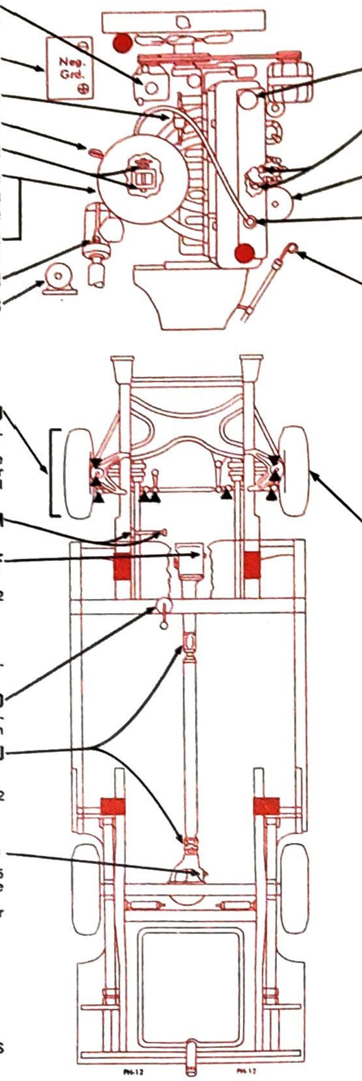
TIRES .... Pressure

	Front	Rear
6.70-15	24	24*
7.00-14, 7.50-14	22	22*

* Add 4 pounds for fully loaded station wagon

[5] Rotate tires, Method A, then balance wheels

Chek-Chart



Position for lift adapter
▲ Prepacked bearing
Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	30	10W-30
Above −10°	10W	10W-30
Below −10°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap .... Wash and oil 30 MO [★]
Service more frequently under dusty conditions. With closed PCV system, sealed cap, no service

Distributor Shaft (oil cup) .... MO [★]
Wick under rotor .... Sparingly MO [★]

Oil Filter .... Replace [★]
Add extra quart oil

PCV System Valve .... Check [★]
Replace valve if clogged; also clean hose and carburetor, if passages are clogged
Service more frequently under severe service

TRANSMISSION, Automatic .. AF
Check level, engine idling and thoroughly warm, NEUTRAL position .... [★]
Severe service, check level every 4,000 miles or 2 months
To overcome difficult starting below −10°, replace 1½ pints fluid with kerosine. Do not dilute more than once during any one season

CAPACITY, quarts	Initial Refill	Total Refill
All models	4	8

DRAIN and REFILL
Remove 1 converter plug and parking sprag cavity plug; also remove oil pan
Regular drain not recommended
Severe service, drain every 32,000 miles; extremely severe service, every 10,000 miles
Replace transmission filter at time of drain

Front Wheel Bearings .... WB
Inspect .... [20]
Severe service, inspect every 10,000 miles
Repack .... [C]
Tighten front wheel adjusting nut to 90 in. lb., position lock nut over adjustment nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key. Final adjustment should be 0 (no preload) to .003" end play

BRAKE ADJUSTMENT

Brakes are self-adjusting. No adjustment normally required
Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

[★] Twice yearly
[5] Every 5,000 miles
[16] Every 16,000 miles or yearly
[20] Every 20,000 miles or 2 years
[32] Every 32,000 miles
[2Y] Every 2 years or 32,000 miles
[C] Conditional service
Lubricate gearshift lever as required
Drain and refill differential for below −10° requirements
Repack front wheel bearings as required or at brake overhaul

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant
MoPar Part No. 2298947
CC Carburetor Cleaner
HB Hydraulic Brake Fluid, Heavy-Duty
MoPar Hi-Temp Brake Fluid
LM Lithium Grease
MH Manifold Heat Control Valve Solvent
MoPar Part No. 1879318
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
Meeting Specification MIL-L-2105B
PS Power Steering Fluid
MoPar Part No. 2084329
SG Steering Gear Lubricant
UJ Universal Joint Grease
WB Wheel Bearing Grease

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

PLYMOUTH V-8

1964 All Models Except Valiant

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

(Following data does not include racing-type engines)

BATTERY

	AABM Group No.	Amp. Hrs.
318 engine	24H	48
361, 383, 426 engines	24H	59
	27H	70

COMPRESSION PRESSURE

(psi at cranking speed, throttle open) min. max.
318 engine 125 155*
361, 383, 426 engines..............130 165**
* Maximum variation between cylinders, 20 psi
** Maximum variation between cylinders, 25 psi

SPARK PLUGS

Champion: 383 eng. with 4-bbl. carb., 426 eng., J-10Y; others, J-12Y
Gap: .035"
Torque: 30 ft. lb.

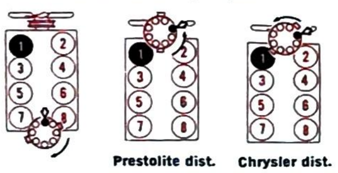
IGNITION POINTS

Chrysler, Prestolite
Gap: .014"-.019"
Dwell angle: Single points, 28°-33°; each set of dual points, 27°-32°; dual points total dwell, 34°-40°

CONDENSER

Chrysler, Prestolite
Capacity: .25-.285 mfd

Cylinder Numbering Sequence



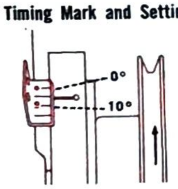
318 eng. — Prestolite dist. / Chrysler dist. 361, 383, 426 engs.

Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed to 500 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 10°

FUEL PUMP

Carter model: 318 engine, MS-3673S; 361, 383, 426 engines, MS-3672S
Pressure: 3½-5 lb. at idle rpm
Volume: 1 quart per minute at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
BALL & BALL			
2-bbl. BBD 318 eng.	1	index	index
2-bbl. BBD 361 eng.	¾	2 rich	2 rich
CARTER			
4-bbl. AFB	1½	index	index
STROMBERG			
2-bbl. WW3	1¼	index	index

ENGINE IDLE SPEED

Manual Trans. 500 rpm, headlights on high beam
Auto. Trans. 500 rpm in NEUTRAL with headlights on high beam
Air Cond. 500 rpm in NEUTRAL with unit turned ON and headlights on high beam

VALVE CLEARANCES

(engine hot and running)
318 engine: Intake .013"; exhaust .021"
361, 383, 426 engines: Hydraulic lifters, non-adjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM.........Quarts

	With Heater	Without Heater
318-cu. in. engine	21	20
361-, 383-, 426-cu. in. engines	17	16

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

★ **Battery**.................... Check and fill
Caution: Do not ground positive terminal

★ **Power Steering Reservoir**.............PS
Fill to base of filler neck if cold, halfway when hot

★ **Oil Fill Cap**...........Wash and oil 30 MO
Service more frequently under dusty conditions. With closed PCV system, sealed cap, no service

★ **Carburetor Choke Shaft**...........Clean CC

Air Cleaner Element................Service
★ Dry type ....Clean
2Y Dry type ....Replace

★ **Manual Steering Gear (plug)**...........SG, LM

★ **Distributor Shaft (oil cup)**...............MO
361-, 383-, 426-cu. in. engines, right side front
★ Wick under rotor...........Sparingly MO

★ **Brake Master Cylinder (cover)**...........HB
Fill to ¼ inch below top of reservoir

Front Suspension and Steering Linkage............(9 plugs) BJ
★ Inspect seal; if damaged, replacement is necessary. After replacing seal, relubricate
32 Relubricate using special adapter. Fill until grease flows from upper ball joint bleed holes or lower joint seal lower lip. Do not rupture seals. Reinstall plug

32 **Torque Shaft** ....LM
Disassemble, clean and repack both ends

TRANSMISSION, Manual

All except 3-speed H.D.................AF
3-speed H.D.............................MP, AF
Above +32°, 80MP; below +32°, AF
★ Maintain level to fill plug hole
Severe service, check level every 4,000 miles or 2 months
CAPACITY 3-speed: H.D. 2½ pints, others 3½ pints; 4-speed 6½ pints
DRAIN and REFILL
Regular drain not recommended
Severe service, drain every 32,000 miles; extremely severe service, every 10,000 miles

C **Gearshift Lever** ....MO
Remove rubber boot from floor panel, apply lubricant to pivot points and yoke selector mechanism

Universal Joints ....UJ
Front, 2 ounces, grade 2; rear, grade 0
★ Inspect for leaks, replace seals if necessary
Severe service, inspect every 4,000 miles or 2 mo.
32 Repack if used under severe service

DIFFERENTIAL ....MP*
Above -10°, 90; below -10°, 80; below -30°, 75
★ Maintain level ½ inch below fill plug hole (axle hoist); bottom of fill plug hole (frame hoist)
Severe service, check level every 4,000 miles or 2 months
CAPACITY 4 pints
DRAIN and REFILL
C Normal service 32 Severe service
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK..................Gallons

Suburban	21
Optional for fleets	23
All other models	19

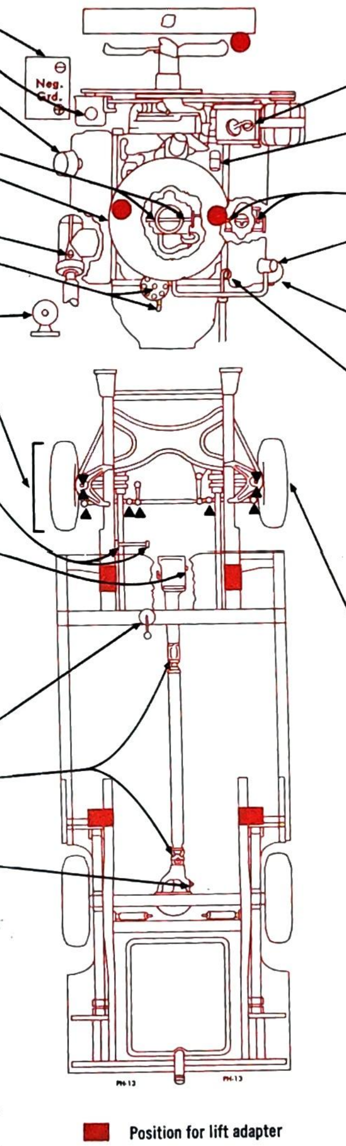
TIRES

	Pressure Front	Rear
6.70-15	24	24*
7.00-14, 7.50-14	24	22*▲

* Add 4 pounds for fully loaded station wagon
▲ Station wagon, 26

5 Rotate tires, Method A, then balance wheels

Chek-Chart



■ Position for lift adapter
▲ Prepacked bearing
● Cooling system drain

CRANKCASE..............."MS" MO

Above +32°	30	10W-30
Above -10°	10W	10W-30
Below -10°	5W	5W-20

CAPACITY 4 quarts except 426-cu. in. engine, 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Crankcase Dipstick..............Check level
361-, 383-, 426-cu. in. engines, left side

Fuel Filter ....Replace 16
361-, 383-, 426-cu. in. engines, front of engine above fuel pump

Manifold Heat Control Valve Shaft........MH ★
361-, 383-, 426-cu. in. engines, at rear of manifold

PCV System Valve..................Check ★
Replace valve if clogged; also clean hose and carburetor, if passages are clogged
Service more frequently under severe service

Oil Filter (under car)...............Replace ★
Add extra quart oil. 361-, 383-, 426-cu. in. engines, left side front

TRANSMISSION, Automatic..AF
★ Check level, engine idling and thoroughly warm, NEUTRAL position
Severe service, check level every 4,000 miles or 2 months
To overcome difficult starting below -10°, replace 1½ pints fluid with kerosine. Do not dilute more than once during any one season

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	9

DRAIN and REFILL
Remove 1 converter plug and parking sprag cavity plug; also remove oil pan
Regular drain not recommended
Severe service, drain every 32,000 miles; extremely severe service, every 10,000 miles
Replace transmission filter at time of drain

Front Wheel Bearings..................WB
Inspect 20
Severe service, inspect every 10,000 miles
Repack C
Tighten front wheel adjusting nut to 90 in. lb., position lock nut over adjusting nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key. Final adjustment should be 0 (no preload) to .003" end play

BRAKE ADJUSTMENT

Brakes are self-adjusting. No adjustment normally required
Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ Twice yearly
5 Every 5,000 miles
16 Every 16,000 miles or yearly
20 Every 20,000 miles or 2 years
32 Every 32,000 miles
2Y Every 2 years or 32,000 miles
C Conditional service
Lubricate gearshift lever as required
Drain and refill differential for below -10° requirements
Repack front wheel bearings as required or at brake overhaul

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant, MoPar Part No. 2298947
CC Carburetor Cleaner
HB Hydraulic Brake Fluid, Heavy-Duty, MoPar Hi-Temp Brake Fluid
LM Lithium Grease
MH Manifold Heat Control Valve Solvent, MoPar Part No. 1879318
MO Motor Oil
MP* Multi-Purpose Gear Lubricant, Meeting Specification MIL-L-2105B
PS Power Steering Fluid, MoPar Part No. 2084329
SG Steering Gear Lubricant
UJ Universal Joint Grease
WB Wheel Bearing Grease

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

PLYMOUTH-VALIANT 6

1964 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
170 engine	20H	38
225 engine	24H	48

COMPRESSION PRESSURE

(psi at cranking speed, throttle open)	min.	max.
All	110	140*

* Maximum variation between cylinders, 20 psi

SPARK PLUGS

Champion N-14Y*
Gap: .035"
Torque: 30 ft. lb.
* Gasket not required

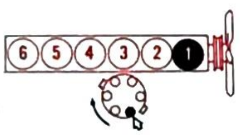
IGNITION POINTS

Chrysler
Gap: .017"-.023"
Dwell angle: 40°-45°

CONDENSER

Chrysler
Capacity: .25-.285 mfd

Cylinder Numbering Sequence

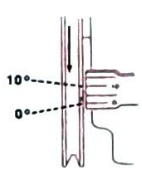


Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed to 475-500 rpm, transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 2½°

FUEL PUMP

Carter model MS-3674S
Pressure: 3½-5 lb. at 500 rpm
Volume: 1 quart per minute at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
BALL & BALL 1-bbl. BBS	1	2 rich	2 rich
HOLLEY 1-bbl. R	1	2 rich	2 rich

ENGINE IDLE SPEED

Manual Trans. 550 rpm with headlights on high beam
Auto. Trans. 550 rpm in NEUTRAL with headlights on high beam
Air Cond. 550 rpm in NEUTRAL with unit turned ON and with headlights on high beam

VALVE CLEARANCES

(engine hot and running)
Intake .010"; exhaust .020"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
Super 225-cu. in. engine	13	12
All other models	12	11

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

★ **Power Steering Reservoir** .... PS
Fill to base of filler neck when cold, halfway when hot

★ **Battery** .... Check and fill
Caution: Do not ground positive terminal

16 **Fuel Filter** .... Replace

Crankcase Dipstick .... Check level

★ **Manifold Heat Control Valve Shaft** .... MH

Air Cleaner Element .... Service
★ Dry type .... Clean
2Y Dry type .... Replace

★ **Carburetor Choke Shaft** .... Clean CC
In carburetor air horn. Remove air cleaner to service

★ **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir

★ **Manual Steering Gear** (plug) .... SG, LM

Front Suspension and Steering Linkage .... (9 plugs) BJ
★ Inspect seal; if damaged, replacement is necessary. After replacing seal, relubricate
32 Relubricate using special adapter. Fill until grease flows from upper ball joint bleed holes or lower joint seal lower lip. Do not rupture seals. Reinstall plug

32 **Torque Shaft** .... LM
Disassemble, clean and repack both ends

TRANSMISSION, Manual .... AF
★ Maintain level to fill plug hole
Severe service, check level every 4,000 miles or 2 months
CAPACITY 3-speed, 5 pints; 4-speed, 6 pints
DRAIN and REFILL
Regular drain not recommended
Severe service, drain every 32,000 miles; extremely severe service, every 10,000 miles

C **Gearshift Lever** .... MO
Remove rubber boot from floor panel, apply lubricant to pivot points and yoke selector mechanism

Universal Joints .... UJ
Front, 2 ounces, grade 2; rear, grade 0
★ Inspect for leaks, replace seals if necessary
Severe service, inspect every 4,000 miles or 2 months
32 Repack if used under severe service

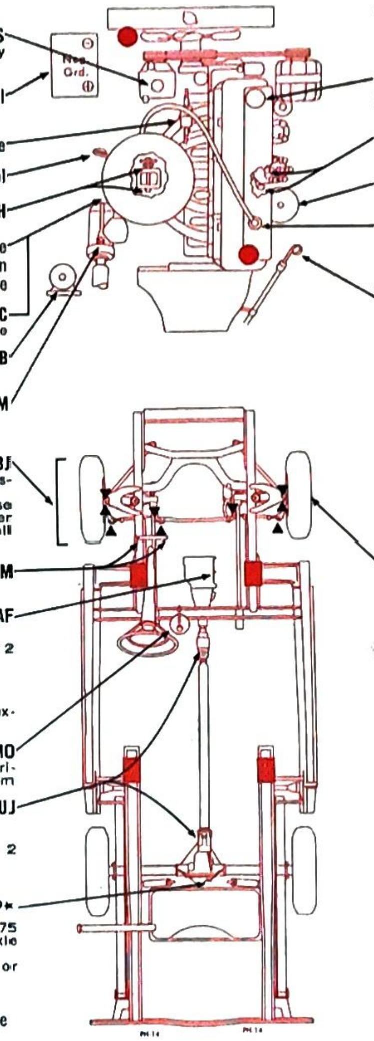
DIFFERENTIAL .... MP*
Above −10°, 90; below −10°, 80; below −30°, 75
★ Maintain level ⅝ inch below fill plug hole (axle hoist); bottom of fill plug hole (frame hoist)
Severe service, check level every 4,000 miles or 2 months
CAPACITY 2 pints
DRAIN and REFILL
C Normal service   32 Severe service
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK .... Gallons
All models 18

TIRES .... Pressure	Front	Rear
6.50-13	24	24*

* Suburban: 3-seat, 2-seat fully loaded, 28

5 Rotate tires, Method A, then balance wheels



CRANKCASE .... "MS" MO

Above +32°	30	10W-30
Above −10°	10W	10W-30
Below −10°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap .... Wash and oil 30 MO ★
Service more frequently under dusty conditions. With closed PCV system, sealed cap, no service

Distributor Shaft (oil cup) .... MO ★
Wick under rotor .... Sparingly MO ★

Oil Filter .... Replace ★
Add extra quart oil

PCV System Valve .... Check ★
Replace valve if clogged; also clean hose and carburetor, if passages are clogged
Service more frequently under severe service

TRANSMISSION, Automatic .... AF
Check level, engine idling and thoroughly warm, NEUTRAL position .... ★
Severe service, check level every 4,000 miles or 2 months
To overcome difficult starting below −10°, replace 1½ pints fluid with kerosine. Do not dilute more than once during any one season

CAPACITY, quarts	Initial Refill	Total Refill
All models	4	8

DRAIN and REFILL
Remove 1 converter plug, transmission plug and parking sprag cavity plug; also remove oil pan
Regular drain not recommended
Severe service, drain every 32,000 miles; extremely severe service, every 10,000 miles
Replace transmission filter at time of drain

Front Wheel Bearings .... WB
Inspect 20
Severe service, inspect every 10,000 miles
Repack C
Tighten front wheel adjusting nut to 70 in. lb., position lock nut over adjustment nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key. Final adjustment should be 0 (no preload) to .003" end play

BRAKE ADJUSTMENT

Brakes are self-adjusting. No adjustment normally required
Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ Twice yearly
5 Every 5,000 miles
16 Every 16,000 miles or yearly
20 Every 20,000 miles or 2 years
32 Every 32,000 miles
2Y Every 2 years or 32,000 miles
C Conditional service
Lubricate gearshift lever as required
Drain and refill differential for below −10° requirements
Repack front wheel bearings as required or at brake overhaul

■ Position for lift adapter
▲ Prepacked bearing
● Cooling system drain

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant
MoPar Part No. 2298947
CC Carburetor Cleaner
HB Hydraulic Brake Fluid, Heavy-Duty
MoPar Hi-Temp Brake Fluid
LM Lithium Grease
MH Manifold Heat Control Valve Solvent
MoPar Part No. 1879318
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
Meeting Specification MIL-L-2105B
PS Power Steering Fluid
MoPar Part No. 2084329
SG Steering Gear Lubricant
UJ Universal Joint Grease
WB Wheel Bearing Grease

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

PLYMOUTH-VALIANT V-8

1964 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24H	48

COMPRESSION PRESSURE
(psi at cranking speed, throttle open)

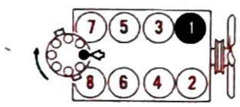
	min.	max.
All	125	155

SPARK PLUGS
Champion N-14Y
Gap: .035"
Torque: 30 ft. lb.

IGNITION POINTS
Chrysler
Gap: .014"-.019"
Dwell angle: 28°-33°

CONDENSER
Chrysler
Capacity: .25-.285 mfd

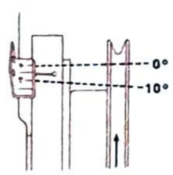
Cylinder Numbering Sequence



Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed with transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
Manual Trans. 5°; Auto. Trans. 10°

FUEL PUMP
Carter model MS-3673S
Pressure: 5-7 lb. at idle rpm
Volume: 1 quart per minute at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
BALL & BALL 2-bbl. BBD	1	index	index

ENGINE IDLE SPEED
Manual Trans. 500 rpm, headlights on high beam
Auto. Trans. 500 rpm in NEUTRAL with headlights on high beam
Air Cond. 500 rpm in NEUTRAL with unit turned ON and headlights on high beam

VALVE CLEARANCES
(engine hot and running)
Intake .013"; exhaust .021"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	17	16

Cooling system pressure, 14 pounds; with air conditioning, 16 pounds

Chek-Chart

★ **Battery** .... Check and fill
Caution: Do not ground positive terminal

★ **Power Steering Reservoir** .... PS
Fill to base of filler neck if cold, halfway when hot

★ **Carburetor Choke Shaft** .... Clean CC

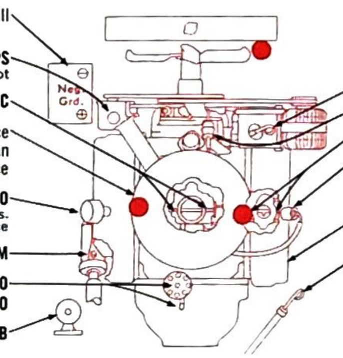
Air Cleaner Element .... Service
★ Dry type .... Clean
2Y Dry type .... Replace

★ **Oil Fill Cap** .... Wash and oil 30 MO
Service more frequently under dusty conditions. With closed PCV system, sealed cap, no service

★ **Manual Steering Gear** (plug) .... SG, LM

★ **Distributor Shaft** (oil cup) .... MO
★ Wick under rotor .... Sparingly MO

★ **Brake Master Cylinder** (cover) .... HB
Fill to ¼ inch below top of reservoir



CRANKCASE .... "MS" MO

Above +32°	30	10W-30
Above −10°	10W	10W-30
Below −10°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Crankcase Dipstick .... Check level

Fuel Filter .... Replace 16

Manifold Heat Control Valve Shaft .... MH ★

PCV System Valve .... Check ★
Replace valve if clogged; also clean hose and carburetor, if passages are clogged
Service more frequently under severe service

Oil Filter (under car) .... Replace ★
Add extra quart oil

TRANSMISSION, Automatic .. AF
Check level, engine idling and thoroughly warm, NEUTRAL position .... ★
Severe service, check level every 4,000 miles or 2 months
To overcome difficult starting below −10°, replace 1½ pints fluid with kerosine. Do not dilute more than once during any one season

CAPACITY, quarts	Initial Refill	Total Refill
All models	4	8

DRAIN and REFILL
Remove 1 converter plug, transmission plug and parking sprag cavity plug; also remove oil pan
Regular drain not recommended
Severe service, drain every 32,000 miles; extremely severe service, every 10,000 miles
Replace transmission filter at time of drain

Front Wheel Bearings .... WB
Inspect 20
Severe service, inspect every 10,000 miles
Repack C

Tighten front wheel adjusting nut to 70 in. lb., position lock nut over adjustment nut so that one set of slots on lock nut aligns with drilled hole in axle spindle. Back off adjusting and lock nuts one slot and install cotter key. Final adjustment should be 0 (no preload) to .003" end play

Front Suspension and Steering Linkage .... (9 plugs) BJ
★ Inspect seal; if damaged, replacement is necessary. After replacing seal, relubricate
32 Relubricate using special adapter. Fill until grease flows from upper ball joint bleed holes or lower joint seal lower lip. Do not rupture seals. Reinstall plug

32 **Torque Shaft** .... LM
Disassemble, clean and repack both ends

TRANSMISSION, Manual ..... AF
★ Maintain level to fill plug hole
Severe service, check level every 4,000 miles or 2 months
CAPACITY 3-speed, **5 pints**; 4-speed, **6 pints**
DRAIN and REFILL
Regular drain not recommended
Severe service, drain every 32,000 miles; extremely severe service, every 10,000 miles

C **Gearshift Lever** .... MO
Remove rubber boot from floor panel, apply lubricant to pivot points and yoke selector mechanism

Universal Joints .... UJ
Front, 2 ounces, grade 2; rear, grade 0
★ Inspect for leaks, replace seals if necessary
Severe service, inspect every 4,000 miles or 2 months
32 Repack if used under severe service

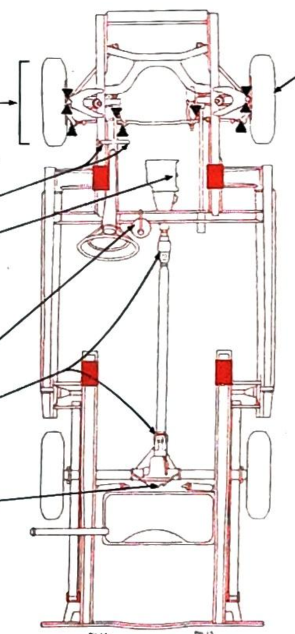
DIFFERENTIAL .... MP*
Above −10°, 90; below −10°, 80; below −30°, 75
★ Maintain level ⅝ inch below fill plug hole (axle hoist); bottom of fill plug hole (frame hoist)
Severe service, check level every 4,000 miles or 2 months
CAPACITY 2 pints
DRAIN and REFILL
C Normal service 32 Severe service
SURE-GRIP IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK .... Gallons
All models 18

TIRES	Pressure	Front	Rear
7.00-13		24	22*

* Suburban, 24; fully loaded, 28

5 Rotate tires, Method A, then balance wheels



Position for lift adapter
▲ Prepacked bearing
Cooling system drain

BRAKE ADJUSTMENT

Brakes are self-adjusting. No adjustment normally required
Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ Twice yearly
5 Every 5,000 miles
16 Every 16,000 miles or yearly
20 Every 20,000 miles or 2 years
32 Every 32,000 miles
2Y Every 2 years or 32,000 miles
C Conditional service
Lubricate gearshift lever as required
Drain and refill differential for below −10° requirements
Repack front wheel bearings as required or at brake overhaul

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant — MoPar Part No. 2298947
CC Carburetor Cleaner
HB Hydraulic Brake Fluid, Heavy-Duty — MoPar Hi-Temp Brake Fluid
LM Lithium Grease
MH Manifold Heat Control Valve Solvent — MoPar Part No. 1879318
MO Motor Oil
MP* Multi-Purpose Gear Lubricant — Meeting Specification MIL-L-2105B
PS Power Steering Fluid — MoPar Part No. 2084329
SG Steering Gear Lubricant
UJ Universal Joint Grease
WB Wheel Bearing Grease

* For Sure-Grip differential, use MoPar Rear Axle Lubricant Part No. 1879414

PONTIAC V-8

1958-60 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	60
	27	72

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
Standard engine 140-160*
Hi-comp. engine 170-190*
* Lowest cylinder pressure shall be within 80% of highest cylinder

SPARK PLUGS

AC: 1958-59, 45; 1960, 45S
Gap: .033"-.038" (.035" preferred)
Torque: 25 ft. lb.

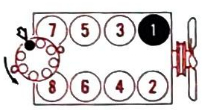
IGNITION POINTS

Delco
Gap: .016"
Dwell angle: 28°-32° (30° preferred)

CONDENSER

Delco
Capacity: .18-.23 mfd

Cylinder Numbering Sequence

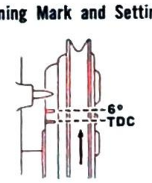


Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape line opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Remove tape, reconnect distributor vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 6°

FUEL PUMP

AC model: 1958, 4488; 1959, 4480; 1960, 4512
Pressure: 5¼-6¾ lb. at 500-1000 rpm (tested at carburetor height)
Volume: 1 pint in 45 seconds or less, at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER			
1958-59 4-bbl.	1*	1 rich	1 rich
1960 4-bbl.	1½*	1 rich	1 rich
ROCHESTER			
2-bbl. 2GC	1½	index	index
(3) 2-bbl. 2GC	1½	index	index

* Air bleed screw, initial adjustment, 2½ turns

ENGINE IDLE SPEED

1958 Manual Trans. 450-470 rpm
Auto. Trans. 480-500 rpm in DRIVE
1959-60 Manual Trans. 480-500 rpm
Auto. Trans. 480-500 rpm in DRIVE
Air Cond. 540-560 rpm in DRIVE with unit turned OFF

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
1958	22¼	21
With air conditioning	22½	21
With Hydra-Matic	22	21
1959	22½	21½
1960	22	21

Cooling system pressure, 13-15 pounds

[★] **Battery** .... Test and fill
[15] **Fuel Filter 1960** .... Replace
[★] **Power Steering Reservoir** .... PS
Fill to level mark. 1959 Air Suspension models, use only synthetic fluid GM Part No. 577080. Caution: Do not mix fluids
Air Suspension Compressor Reservoir on models without power steering. Maintain level between ADD OIL and FULL marks with AF. Do not overfill
Air Cleaner Element .... Service
[15] Polyurethane element .... 10W-30 MO
Wash and oil
[15] Dry type .... Replace
[10] Wire gauze .... Wash and oil MO
Manual Steering Gear (plug) .... SG
[★] Check level, also for leaks
[Y] Fill to plug level
Power steering models, no lubrication
Brake Master Cylinder (plug) .... HB
[★] Check for leaks
[C] Fill to 1 inch below top of fill hole. Power brakes, ½ inch

[★] **Front Suspension and Steering Linkage** .... (17 fittings) CL
[★] **Clutch Shaft Felts and Linkage** .... MO

TRANSMISSION, Manual .. 90 MP
[★] Check level, also for leaks
CAPACITY 1¾ pints
DRAIN and REFILL Not recommended
[25] **Universal Joints** .... Repack WB
Refer to dealer
[Y] **Parking Brake Cables** .... Coat WG

LIFTING CAUTION — AIR SUSPENSION
Before jacking or placing car on lift, pull CAR LIFT knob, located on instrument panel near steering column, all the way out. After lowering, push knob all the way in

DIFFERENTIAL .... 90 MP*
[★] Check level, also for leaks
CAPACITY 5½ pints
DRAIN and REFILL Not recommended
SAFE-T-TRACK IDENTIFICATION:
A stripe of green on outer end of axle shafts

GAS TANK .... Gallons

1958 ex. Safari	20
1959 ex. Safari	21½
1958-59 Safari	20½
1960 ex. Safari	23
1960 Safari	20

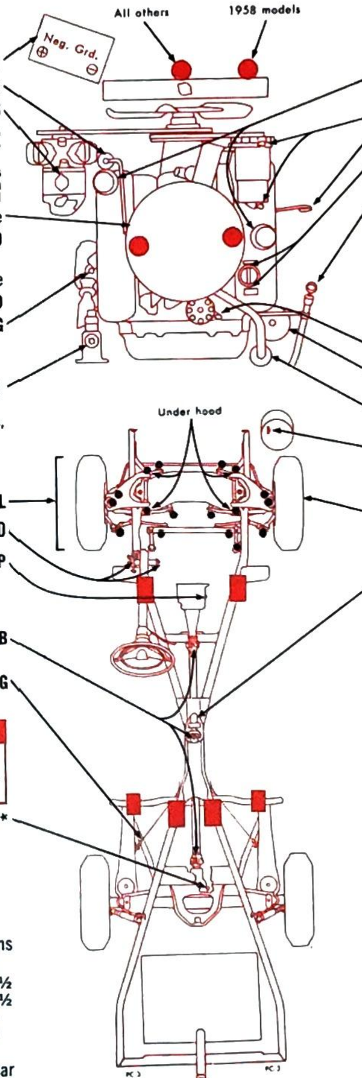
TIRES .... Pressure

	Front	Rear
8.00-14	22	22
8.50-14	20*	20
8.50-14, Safari	22	26
8.00-14, 8.50-14, 6 ply	28	28

* With air conditioning, 22

[4] Rotate tires, Method B, then balance wheels

Chek-Chart



■ Position for lift adapter
Rear outer positions indicate non-load carrying pad under control arm bracket support to stabilizer
● Lubrication fitting
● Cooling system drain

CRANKCASE ...... "MS" or "DG" MO

Above +10°	20W*	10W-30
Above −10°	10W*	10W-20
Below −10°	5W*	5W-20

*For sustained high performance, high speed driving, use one grade heavier
CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Caps .... Wash and oil MO [★]
1958, fill cap on right side, forward
Generator (2 oil cups) .... MO [★]
Crankcase Dipstick .... Check level
Manifold Heat Control Valve .... MH [C]
Lubricate if shaft is not free

TRANSMISSION, Automatic .. AF
Check level, engine idling, PARK position .... [★]

CAPACITY, quarts	Initial Refill	Total Refill
All models	8	9

DRAIN and REFILL .... [25]
Heavy-duty operating conditions or excessive stop-and-go driving, drain every 12,000 miles
Remove 1 coupling plug and disconnect fill pipe, except early 1958, remove transmission plug

Distributor Shaft (oil cup) .... MO [★]
Oil Filter (under car) .... Replace [15]
Add extra quart oil
Crankcase Breather Outlet Element .... MO [★]
Wash and oil
Air Suspension Tank Cock .... Drain [★]
Tank located inside right front fender. Some 1958, cock reached from under hood
Drain condensation. Close immediately
Front Wheel Bearings .... Repack WB [C]

	Initial Torque	Final Adjustment
1958-59	200 in. lb.	45-50 in. lb.
1960	325 in. lb.	25-35 in. lb.

Universal Joint Spline (plug) .... WB [12]
Reached thru hole in bottom of frame
To lubricate, replace plug with fitting

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:

1. Make sure parking brake is completely released
2. Use suitable tool inserted into adjustment hole in backing plate to expand shoes until drum can just be revolved by hand
3. Back off the adjustment 12 notches
4. Repeat procedure at each wheel

Bleeding sequence: LF, RF, LR, RR

KEY TO INTERVALS

[★] Every 2,000 miles
[4] Every 4,000 miles
[10] Every 10,000 miles
[12] Every 12,000 miles or yearly
[15] Every 15,000 miles
Oil Filter: Every 15,000 miles or yearly
[25] Every 25,000 miles
[Y] Yearly
[C] Conditional service
Fill brake master cylinder when brakes are adjusted
Lubricate manifold heat control valve if shaft is not free
Repack front wheel bearings only when wheel and drum are removed for other service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CL Chassis Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
MH Graphite mixed with alcohol
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
PS Power Steering Fluid
Pontiac Part No. 9771864
SG Steering Gear Lubricant
WB Wheel Bearing Grease
WG White Waterproof Grease

* Use Pontiac special lubricant Part No. 531536 in all differentials


1961


1962

HOOD RELEASE: Front

PONTIAC TEMPEST 4

1961-62 All Models

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22F	42
	24	61

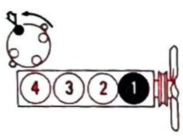
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
8.6:1CR 140-160*
10.25:1CR 170-190*
* Lowest cylinder pressure should be within 80% of highest cylinder

SPARK PLUGS
AC 45S; trailer towing, 44S
Gap: .033"-.038" (.035" preferred)
Torque: 25 ft. lb.

IGNITION POINTS
Delco
Gap: .019"
Dwell angle: 74°-76° (75° preferred); late 1962 without adjusting window, 31°-34°

CONDENSER
Delco
Capacity: .18-.23 mfd

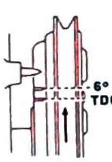
Cylinder Numbering Sequence



Firing Order: 1, 3, 4, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape line opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at harmonic balancer and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 6°

FUEL PUMP
AC model 4843
Pressure: 4-5¼ lb. at 1800 rpm (tested at carburetor height)
Volume: 1 pint in 45 seconds or less, at idle rpm

CARBURETOR ADJUSTMENT

ROCHESTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
1-bbl. B	1½	manual	—
1-bbl. BC	1½	index	index
4-bbl. 4GC	1½*	1 rich	1 rich

* Air bleed screw, initial adjustment, 1 turn

ENGINE IDLE SPEED
Manual Trans. 680-700 rpm
Auto. Trans. 580-600 rpm in DRIVE
Air Cond. Manual Trans. 680-700 rpm; Auto. Trans. 630-650 rpm in DRIVE; with unit turned OFF

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
All models	12½	11½
With air conditioning	13	12

Cooling system pressure, 15 pounds

★ **Battery** ....Test and fill

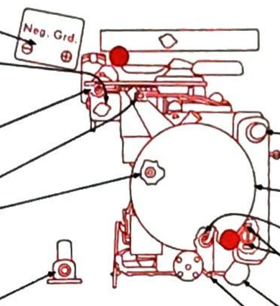
★ **Power Steering Reservoir**.................PS
Maintain level between FULL and ADD marks on dipstick. Check for leaks

★ **Manual Steering Gear** (plug)..............SG
Check level, also for leaks

8 **Generator** (1 or 2 oil cups)..............MO

Fuel Filter Element.................Service
12 In fuel line.....................Replace
TY In carburetor....................Clean
12 In carburetor....................Replace

★ **Brake Master Cylinder** (plug or cap).......HB
Check for leaks
Fill to ⅜ inch below top of fill hole

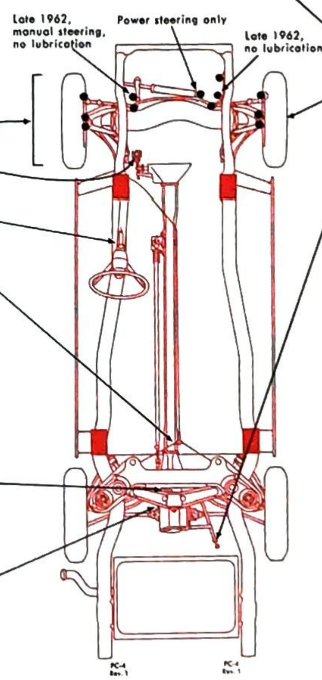


★ **Front Suspension and Steering Linkage**......(9 to 12 fittings) CL

★ **Clutch Shaft Felt**.....................MO

C **Speedometer Cable** ....Coat SP

Parking Brake Cables
C Coat ....WG
1961, also coat cable where it passes over torque tube CL



TRANSMISSION, Manual..90 MP
★ Check level, also for leaks
CAPACITY 3-speed, 3 pints; 4-speed, 4 pints
DRAIN and REFILL Not recommended

DIFFERENTIAL.............90 MP
★ Check level, also for leaks
CAPACITY 3 pints
DRAIN and REFILL Not recommended

GAS TANK...................Gallons
All models 16

TIRES..........Pressure Front Rear

	Front	Rear
6.00-15, Sedan	22	22
6.50-15, Sedan	22	22
6.50-15, station wagon	22	26

★ Rotate tires, Method B, then balance wheels

LIFTING CAUTION
Never lift car by front or rear bumpers

Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE......"MS" or "DG" MO

Above +10°	20W	10W-30
Above −10°	10W	10W-30
Below −10°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap...............Wash and oil MO 8

Crankcase Dipstick ....Check level

Air Cleaner Element................Service
Wire gauze......Wash and oil 10W-30 MO 8
Polyurethane....Wash and oil 10W-30 MO 16

PCV System Valve.................Replace 12
Also remove and clean hose

Manifold Heat Control Valve............MH C
Lubricate if shaft is not free

Oil Filter (under car)..............Replace 4
Add extra quart oil

Distributor Shaft (oil cup) 1961..........MO ★

Front Wheel Bearings............Repack WB C
Tighten to 10-12 ft. lb. while rotating wheel; back off ⅙ turn

TRANSMISSION, Automatic..AF
Check level, engine idling, NEUTRAL position.... ★
Remove cover plate in luggage compartment floor pan to reach dipstick
1961, make sure dipstick is locked in place
CAPACITY 3 quarts
DRAIN and REFILL Not recommended
Remove the oil fill tube

BRAKE ADJUSTMENT
With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated
Adjust the brakes as follows:
1. Make sure parking brake is completely released
2. Use a suitable tool inserted into adjustment slot in backing plate to expand shoes to produce 5-8 lb. drag at outside of tire when wheel is turned
3. Back off adjustment 10 notches on front brakes, 12* notches on rear brakes. Drum should turn freely without drag
4. Repeat procedure at each wheel

* Back off 14 notches if hoist supports rear suspension near ends of control arms and prevents rear wheels from hanging down

Bleeding sequence: LF, RF, LR, RR

KEY TO INTERVALS
★ Every 4,000 miles
4 Every 4,000 miles or 6 months
8 Every 8,000 miles
12 Every 12,000 miles or yearly
16 Every 16,000 miles or yearly
TY Twice yearly
C Conditional service
Coat speedometer cable when noisy, or needle flickers
Coat parking brake cables at time of brake repair
Lubricate manifold heat control valve if shaft is not free
Repack front wheel bearings when wheel is removed for other service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CL Chassis Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
MH Graphite mixed with alcohol
MO Motor Oil
MP Multi-Purpose Gear Lubricant
PS Power Steering Fluid
Pontiac Part No. 9771864
SG Steering Gear Lubricant
SP Speedometer Cable Grease
WB Wheel Bearing Grease
WG White Waterproof Grease

PONTIAC TEMPEST V-8

1961-62 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22F	42
	24	61

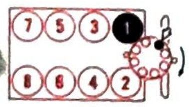
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
8.6:1CR, 8.8:1CR 140-160*
10.25:1CR, 11.00:1CR 170-190*
* Lowest cylinder pressure should be within 80% of highest cylinder

SPARK PLUGS
AC: 1961, 45FFS; 1962, 44FFS
Gap: .030"-.034" (.032" preferred)
Torque: 15-20 ft. lb.*
* Use thread lubricant

IGNITION POINTS
Delco
Gap: .016"
Dwell angle: 28°-32° (30° preferred)

CONDENSER
Delco
Capacity: .18-.23 mfd

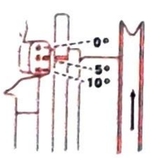
Cylinder Numbering Sequence



Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape line opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at harmonic balancer and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 5°

FUEL PUMP
AC model 4827
Pressure: 4-5½ lb. at 1800 rpm (tested at carburetor height)
Volume: 1 pint in 45 seconds or less at idle rpm

CARBURETOR ADJUSTMENT

ROCHESTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
2-bbl. 2GC	1½	index	index
4-bbl. 4GC	1½*	index	1 rich

* Air bleed screw, initial adjustment, 1 turn

ENGINE IDLE SPEED
Manual Trans. 580-600 rpm
Auto. Trans. 580-600 rpm in DRIVE
Air Cond. 580-600 rpm in DRIVE with the unit turned OFF

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
All models	12½	11½
With air conditioning	13	12

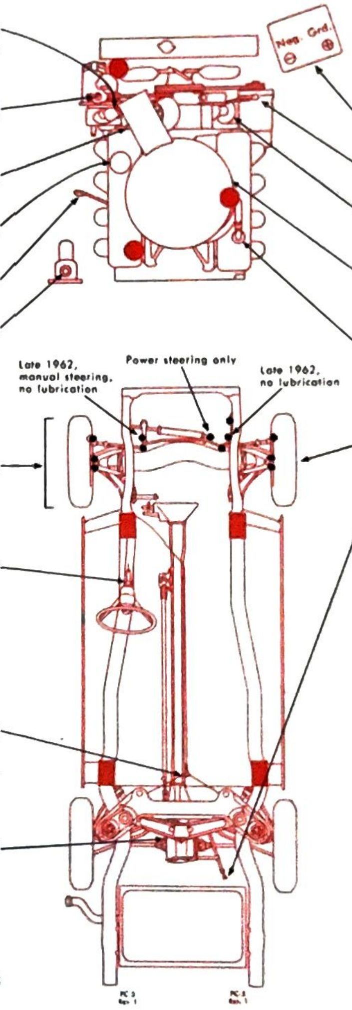
Cooling system pressure, 15 pounds

CRANKCASE ......"MS" or "DG" MO

Above +10°	20W	10W-30
Above −10°	10W	10W-30
Below −10°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Chek-Chart



★ **Power Steering Reservoir** .... PS
Maintain level between FULL and ADD marks on dipstick. Check for leaks

★ **Manual Steering Gear** (plug)........... SG
Check level, also for leaks

12 **Fuel Filter Element** .... Replace

8 **Oil Fill Cap** .... Wash and oil MO

Crankcase Dipstick .... Check level

★ **Brake Master Cylinder** (plug or cap)........ HB
Check for leaks
Fill to ⅜ inch below top of fill hole

★ **Front Suspension and Steering Linkage**......(9 to 12 fittings) CL

C **Speedometer Cable** .... Coat SP

Parking Brake Cables
C Coat .... WG
1961, also coat cable where it passes over torque tube CL

DIFFERENTIAL .... 90 MP
★ Check level, also for leaks
CAPACITY 3 pints
DRAIN and REFILL Not recommended

GAS TANK ....Gallons
All models 16

TIRES ....Pressure Front Rear

	Front	Rear
6.00-15, Sedan	22	22
6.50-15, Sedan	22	22
6.50-15, station wagon	22	26

★ Rotate tires, Method B, then balance wheels

Battery .... Test and fill ★

Generator (1 or 2 oil cups).............. MO 8

Oil Filter (under car)................ Replace 4
Add extra quart oil

Air Cleaner Element .... Service
Polyurethane ..... Wash and oil 10W-30 MO 16

PCV System Valve .... Replace 12
Also remove and clean hose

Front Wheel Bearings .... Repack WB C
Tighten to 10-12 ft. lb., while rotating wheel; back off ⅙ turn

TRANSMISSION, Automatic .. AF
Check level, engine idling, NEUTRAL position ... ★
Remove cover plate in luggage compartment floor pan to reach dipstick
1961, make sure dipstick is locked in place
CAPACITY 3 quarts
DRAIN and REFILL Not recommended
Remove the oil fill tube

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated

Adjust the brakes as follows:
1. Make sure parking brake is completely released
2. Use a suitable tool inserted into adjustment slot in backing plate to expand shoes to produce 5-8 lb. drag at outside of tire when wheel is turned
3. Back off adjustment 10 notches on front brakes, 12* notches on rear brakes. Drum should turn freely without drag
4. Repeat procedure at each wheel

* Back off 14 notches if hoist supports rear suspension near ends of control arms and prevents rear wheels from hanging down

Bleeding sequence: LF, RF, LR, RR

KEY TO INTERVALS

★ **Every 4,000 miles**
4 **Every 4,000 miles or 6 months**
8 **Every 8,000 miles**
12 **Every 12,000 miles or yearly**
16 **Every 16,000 miles or yearly**
C **Conditional service**
Coat speedometer cable when noisy, or needle flickers
Coat parking brake cables at time of brake repair
Repack front wheel bearings when wheel is removed for other service

Position for lift adapter
Lubrication fitting
Cooling system drain

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CL Chassis Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
MO Motor Oil
MP Multi-Purpose Gear Lubricant
PS Power Steering Fluid
Pontiac Part No. 9771864
SG Steering Gear Lubricant
SP Speedometer Cable Grease
WB Wheel Bearing Grease
WG White Waterproof Grease

Hydraulic lifters, nonadjustable

HOOD RELEASE: Front

PONTIAC V-8

1961-62 All Models Except Tempest

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1961 Std. with economy eng.	24	53, 61
Others	24	61
1962 Manual Trans.	24	53
Auto. Trans.	24	61
All (optional)	27	72

COMPRESSION PRESSURE

(at cranking speed with throttle open)	psi
8.6:1CR	140-160*
10.25:1CR, 10.75:1CR	170-190*

* Lowest cylinder pressure should be within 80% of highest cylinder

SPARK PLUGS

AC: 45S; high speed, 44
Gap: .033"-.038" (.035" preferred)
Torque: 25 ft. lb.

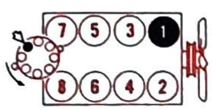
IGNITION POINTS

Delco
Gap: .016"
Dwell angle: 28°-32° (30° preferred)

CONDENSER

Delco
Capacity: .18-.23 mfd

Cylinder Numbering Sequence

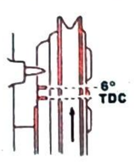


Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape line opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at harmonic balancer and turn distributor to obtain recommended setting
7. Reconnect distributor vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 6°

FUEL PUMP

AC model 4512
Pressure: 5¼-6¾ lb. at 500-1000 rpm (tested at carburetor height)
Volume: 1 pint in 45 seconds or less, at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER			
4-bbl. AFB	1*	1 rich	1 rich
ROCHESTER			
2-bbl. 2GC	1½	index	index
(3) 2-bbl. 2GC	1½**	index**	index**

* Air bleed screw, initial adjustment, 1½ turns
** Idle and choke adjustments on center carburetor only

ENGINE IDLE SPEED

Manual Trans. 480-500 rpm
Auto. Trans. 480-500 rpm in DRIVE
Air Cond. 540-560 rpm in DRIVE with unit turned OFF and idle compensator valve held closed, if so equipped

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	19½	18½

Cooling system pressure, 15 pounds

★ **Battery** .... Test and fill

12 **Fuel Filter Element** .... Replace

★ **Power Steering Reservoir** .... PS
Fill to level mark. Check for leaks

Air Cleaner Element .... Service
8 Wire gauze ...... Wash and oil 10W-30 MO
16 Dry type .... Clean or replace
16 Polyurethane .... Wash and oil 10W-30 MO

★ **Manual Steering Gear** (plug) .... SG
Check level, also for leaks

★ **Brake Master Cylinder** (plug or cap) .... HB
Check for leaks
Fill to ⅞ inch below top of fill hole

Front Suspension and Steering Linkage
★ 1961 .... (15 fittings) CL
35 1962 .... (15 fittings) BJ
1962 models lubricated at factory with special lubricant. Relubricate after 35,000 miles, or if noise develops, with Suspension Lubricant, Pontiac Part No. 1474829. If conventional chassis lubricant is used, relubricate every 4,000 miles

★ **Clutch Lever Pivot** CL

★ **Clutch Lever Felts and Linkage** .... MO

C **Speedometer Cable** .... Coat SP

TRANSMISSION, Manual .. 90 MP

★ Check level, also for leaks
CAPACITY 3-speed, 1¾ pints
3-speed heavy-duty, 2¾ pints
4-speed, 2½ pints
DRAIN and REFILL Not recommended

C **Parking Brake Cables** .... Coat WG

DIFFERENTIAL .... 90 MP*

★ Check level, also for leaks
CAPACITY 5½ pints
DRAIN and REFILL Not recommended
SAFE-T-TRACK IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK .... Gallons

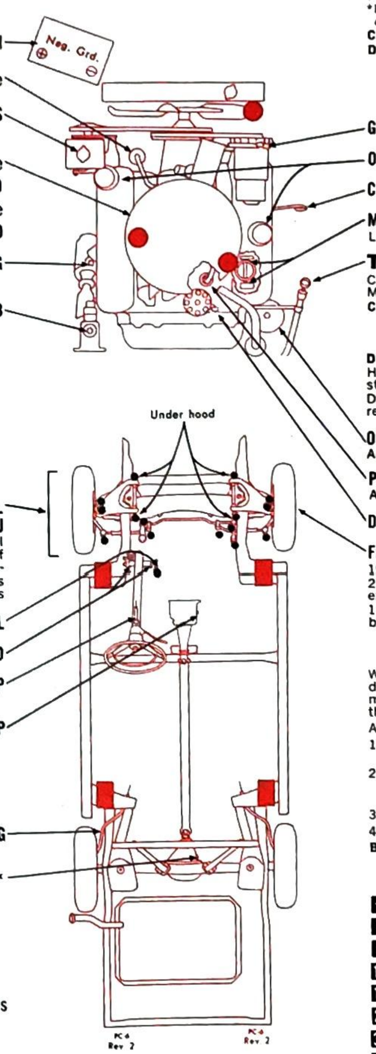
Safari	19
All other models	25

TIRES

Pressure	Front	Rear
8.00-14	22*	22
8.50-14	20*	20
8.50-14, Safari	22	24
8.00-14, 6 ply	28	28

* With air conditioning, add 2 pounds

★ Rotate tires, Method B, then balance wheels



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" or "DG" MO

Above +10°	20W*	10W-30
Above −10°	10W*	10W-30
Below −10°	5W*	5W-20

*For sustained high performance, high speed driving, use one grade heavier
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Generator (1 or 2 oil cups) 1961 .... MO 8

Oil Fill Caps .... Wash and oil MO 8

Crankcase Dipstick .... Check level

Manifold Heat Control Valve .... MH C
Lubricate if shaft is not free

TRANSMISSION, Automatic .. AF

Check level, engine idling, PARK position .... ★
Make certain dipstick is locked in place

CAPACITY, quarts	Initial Refill	Total Refill
Bonneville, Star Chief	6	9
Catalina, Grand Prix, Ventura	4	6

DRAIN and REFILL 25
Heavy-duty operating conditions or excessive stop-and-go driving, drain every 12,000 miles
Disconnect fill pipe. Bonneville and Star Chief, remove 1 coupling plug

Oil Filter (under car) .... Replace 4
Add extra quart oil

PCV System Valve .... Replace 12
Also remove and clean hose

Distributor Shaft (oil cup) 1961 .... MO ★

Front Wheel Bearings .... Repack WB C
1961, initial torque, 325 in. lb.; second torque, 25-35 in. lb. Tighten to insert cotter pin but do not exceed 110 in. lb.
1962, tighten to 10-12 ft. lb. while rotating wheel; back off ¼ turn

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:

1. Make sure the parking brakes are completely released
2. Insert brake adjusting tool into adjustment slot in backing plate and expand shoes until wheel can just be turned by hand
3. Back off adjustment 12 notches
4. Repeat procedure at each wheel

Bleeding sequence: LF, RF, LR, RR

KEY TO INTERVALS

★ **Every 4,000 miles**
4 **Every 4,000 miles or 6 months**
8 **Every 8,000 miles**
12 **Every 12,000 miles or yearly**
16 **Every 16,000 miles or yearly**
25 **Every 25,000 miles**
35 **Every 35,000 miles**
C **Conditional service**
Coat speedometer cable when noisy, or needle flickers
Coat parking brake cables at time of brake repair
Lubricate manifold heat control valve if shaft is not free
Repack front wheel bearings when wheel is removed for other service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant, Pontiac Part No. 1474829
CL Chassis Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
MH Graphite mixed with alcohol
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
PS Power Steering Fluid, Pontiac Part No. 9771864
SG Steering Gear Lubricant
SP Speedometer Cable Grease
WB Wheel Bearing Grease
WG White Waterproof Grease

* Use Pontiac special lubricant Part No. 531536 in all differentials

PONTIAC TEMPEST 4

1963 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22F	44
	24	61

COMPRESSION PRESSURE
(at cranking speed with throttle open) psi

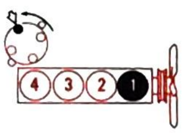
7.6:1CR, 8.6:1CR 140-160*
10.25:1CR 170-190*
* Lowest cylinder pressure should be within 80% of highest cylinder

SPARK PLUGS
AC 45S; heavy-duty, 44S
Gap: .035"
Torque: 25 ft. lb.

IGNITION POINTS
Delco
Gap: .019"
Dwell angle: 31°-34°

CONDENSER
Delco
Capacity: .18-.23 mfd

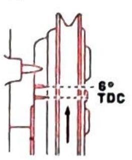
Cylinder Numbering Sequence



Firing Order: 1, 3, 4, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape line opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at harmonic balancer and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 6°

FUEL PUMP
AC model 4843
Pressure: 4-5⅜ lb. at 1000 rpm (tested at carburetor height)
Volume: 1 pint in 45 seconds or less at idle rpm

CARBURETOR ADJUSTMENT

ROCHESTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
1-bbl. B	1½	manual	—
1-bbl. BC	1½	index	index
4-bbl. 4GC	1½*	1 rich	1 rich

* Air bleed screw, initial adjustment, 1 turn

ENGINE IDLE SPEED
Manual Trans. 680-700 rpm*
Auto. Trans. 580-600 rpm in DRIVE*
Air Cond. Manual Trans. 680-700 rpm; Auto. Trans. 580-600 rpm in DRIVE; with unit turned OFF*
* If so equipped, make certain hot idle compensator valve is closed

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

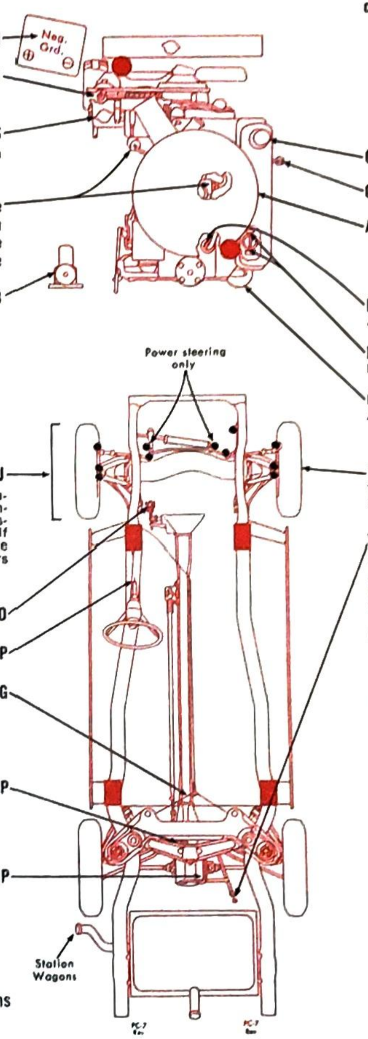
	With Heater	Without Heater
All models	12½	11½
With air conditioning	13	12

Cooling system pressure, 15 pounds

CRANKCASE .... "MS" MO

Above +32°	20W	10W-30
Above 0°	10W	10W-30
Below 0°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4



★ **Battery** .... Test and fill

★ **Manual Steering Gear** (plug) .... SG
Check level, also for leaks

★ **Power Steering Reservoir** .... PS
Maintain level between FULL and ADD marks on dipstick. Check for leaks

Fuel Filter Element .... Service
TY In carburetor .... Clean
12 In carburetor .... Replace
12 In fuel line .... Replace

★ **Brake Master Cylinder** (plug or cap) .... HB
Check for leaks
Fill to ½ inch below top of fill hole

Oil Fill Cap .... Wash and oil MO 12

Crankcase Dipstick .... Check level

Air Cleaner Element .... Service
Polyurethane type. Wash and oil 10W-30 MO 12
Wire gauze ...... Wash and oil 10W-30 MO ★

PCV System Valve .... Replace 12
Also remove and clean hose

Manifold Heat Control Valve .... MH C
Lubricate if shaft is not free

Oil Filter (under car) .... Replace ★
Add extra quart oil

12 **Front Suspension and Steering Linkage** ...... (9 or 11 fittings) BJ
Lubricated at factory with special lubricant. Relubricate every 12 months or 12,000 miles whichever occurs first, or if noise develops, with Suspension Lubricant, Pontiac Part No. 1474829. If conventional chassis lubricant is used, relubricate every 6 months or 6,000 miles whichever occurs first

Front Wheel Bearings .... Repack WB C
Tighten to 10-12 ft. lb. while rotating wheel; back off ¼ turn

★ **Clutch Shaft Felt** .... MO

C **Speedometer Cable** .... Coat SP

C **Parking Brake Cables** .... Coat WG

TRANSMISSION, Automatic .. AF
Check level, engine idling, NEUTRAL position .... ★
Remove cover plate in luggage compartment floor pan to reach dipstick
CAPACITY 2 quarts
DRAIN and REFILL Not recommended
Remove the oil fill tube

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, make initial adjustment as follows:

1. Turn adjusting screw to produce a 5-8 lb. drag on outside of tire
2. With small screw driver hold adjuster lever away from adjusting screw and back off adjustment 22 notches on front brakes and 26 notches on rear brakes. (Back off 30 notches on rear brakes if lift supports rear suspension near ends of control arms and prevents rear wheels from hanging down) Drum should turn freely without drag
3. Repeat procedure at each wheel

Bleeding sequence: LF, RF, LR, RR

TRANSMISSION, Manual . 90 MP
★ Check level, also for leaks
CAPACITY 3-speed, 3 pints; 4-speed, 3⅞ pints
DRAIN and REFILL Not recommended

DIFFERENTIAL .... 90 MP
★ Check level, also for leaks
CAPACITY 3¼ pints
DRAIN and REFILL Not recommended

GAS TANK .... Gallons
All models 20

LIFTING CAUTION
Never lift car by front or rear bumpers

KEY TO INTERVALS

★ Every 6,000 miles or 6 months
12 Every 12,000 miles or yearly
TY Twice yearly
C Conditional service
Coat speedometer cable when noisy, or needle flickers
Coat parking brake cables at time of brake repair
Lubricate manifold heat control valve if shaft is not free
Repack front wheel bearings when wheel is removed for other service

TIRES .... Pressure	Front	Rear
6.00-15	22	22
6.50-15	20*	20
6.50-15, Safari	22*	26

*With air conditioning, increase pressure 2 pounds

★ Rotate tires, Method B, then balance wheels

■ Position for lift adapter
• Lubrication fitting
● Cooling system drain

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant, Pontiac Part No. 1474829
HB Hydraulic Brake Fluid, Heavy-Duty
MH Graphite mixed with alcohol
MO Motor Oil
MP Multi-Purpose Gear Lubricant
PS Power Steering Fluid, Pontiac Part No. 9771864
SG Steering Gear Lubricant
SP Speedometer Cable Grease
WB Wheel Bearing Grease
WG White Waterproof Grease

PONTIAC TEMPEST V-8

1963 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	53
	24	61

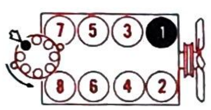
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
8.6:1CR 140-160*
10.25:1CR 170-190*
* Lowest cylinder pressure should be within 80% of highest cylinder

SPARK PLUGS
AC 45S; heavy-duty, 44S
Gap: .035"
Torque: 25 ft. lb.

IGNITION POINTS
Delco
Gap: .016"
Dwell angle: 28°-32° (30° preferred)

CONDENSER
Delco
Capacity: .18-.23 mfd

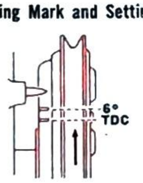
Cylinder Numbering Sequence



Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape line opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at harmonic balancer and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 6°

FUEL PUMP
AC model 6542
Pressure: 5¼-6¾ lb. at 1000 rpm (tested at carburetor height)
Volume: 1 pint in 45 seconds or less at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER			
4-bbl. AFB	1*	1 rich	1 rich
ROCHESTER			
2-bbl. 2GC	1½	index	index

* Air bleed screw, initial adjustment, 1½ turns

ENGINE IDLE SPEED
Manual Trans. 580-600 rpm
Auto. Trans. 480-500 rpm in DRIVE*
Air Cond. Manual Trans. 640-660 rpm; Auto. Trans. 540-560 rpm in DRIVE; with unit turned OFF*
* If so equipped, make certain hot idle compensator valve is closed

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM ....Quarts

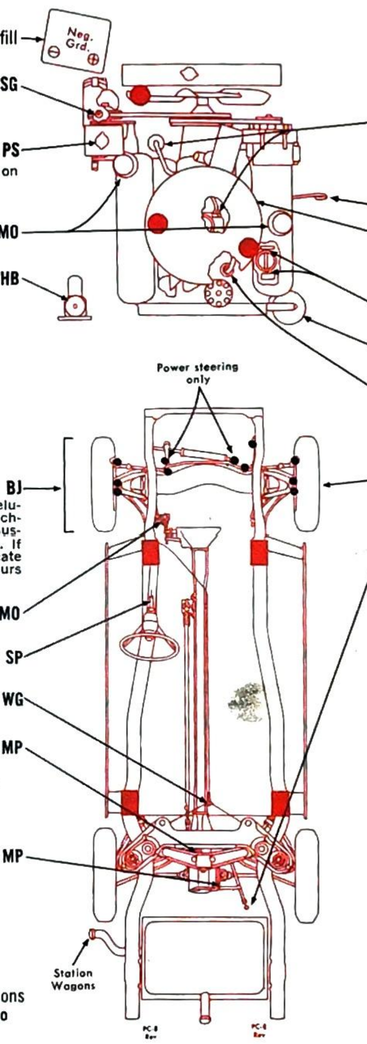
	With Heater	Without Heater
All models	21	20
With air conditioning	22½	21½

Cooling system pressure, 15 pounds

CRANKCASE ...."MS" MO

Above +32°	20W	10W-30
Above 0°	10W	10W-30
Below 0°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4



★ **Battery** ....Test and fill

★ **Manual Steering Gear** (plug)............SG
Check level, also for leaks

★ **Power Steering Reservoir**..............PS
Maintain level between FULL and ADD marks on dipstick. Check for leaks

12 **Oil Fill Caps**.............Wash and oil MO

★ **Brake Master Cylinder** (plug or cap).......HB
Check for leaks
Fill to ½ inch below top of fill hole

Fuel Filter Element......................Service
In carburetor ....Clean TY
In carburetor ....Replace 12
In fuel line........................Replace 12

Crankcase Dipstick..............Check level

Air Cleaner Element...............Service
Polyurethane type. Wash and oil 10W-30 MO 12
Wire gauze.......Wash and oil 10W-30 MO ★

Manifold Heat Control Valve..............MH C
Lubricate if shaft is not free

Oil Filter (under car)..................Replace ★
Add extra quart oil

PCV System Valve.....................Replace 12
Also remove and clean hose

12 **Front Suspension and Steering Linkage**......(9 or 11 fittings) BJ
Lubricated at factory with special lubricant. Relubricate every 12 months or 12,000 miles whichever occurs first, or if noise develops, with Suspension Lubricant, Pontiac Part No. 1474829. If conventional chassis lubricant is used, relubricate every 6 months or 6,000 miles whichever occurs first

Front Wheel Bearings............Repack WB C
Tighten to 10-12 ft. lb. while rotating wheel; back off ¼ turn

★ **Clutch Shaft Felt**.......................MO

C **Speedometer Cable** ....Coat SP

C **Parking Brake Cables**.............Coat WG

TRANSMISSION, Manual..90 MP
★ Check level, also for leaks
CAPACITY 3-speed, 3 pints; 4-speed, 3⅞ pints
DRAIN and REFILL Not recommended

DIFFERENTIAL ....90 MP
★ Check level, also for leaks
CAPACITY 3¼ pints
DRAIN and REFILL Not recommended

GAS TANK ....Gallons
All models 20

TRANSMISSION, Automatic..AF
Check level, engine idling, NEUTRAL position.... ★
Remove cover plate in luggage compartment floor pan to reach dipstick
CAPACITY 2 quarts
DRAIN and REFILL Not recommended
Remove the oil fill tube

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, make initial adjustment as follows:
1. Turn adjusting screw to produce a 5-8 lb. drag on outside of tire
2. With small screw driver hold adjuster lever away from adjusting screw and back off adjustment 22 notches on front brakes and 26 notches on rear brakes. (Back off 30 notches on rear brakes if lift supports rear suspension near ends of control arms and prevents rear wheels from hanging down) Drum should turn freely without drag
3. Repeat procedure at each wheel

Bleeding sequence: LF, RF, LR, RR

TIRES...........Pressure Front Rear

	Front	Rear
6.50-15	22*	20
6.50-15, Safari	22*	26

*With air conditioning, increase pressure 2 pounds

★ Rotate tires, Method B, then balance wheels

LIFTING CAUTION
Never lift car by front or rear bumpers

Position for lift adapter
Lubrication fitting
Cooling system drain

KEY TO INTERVALS

★ Every 6,000 miles or 6 months
12 Every 12,000 miles or yearly
TY Twice yearly
C Conditional service
Coat speedometer cable when noisy, or needle flickers
Coat parking brake cables at time of brake repair
Lubricate manifold heat control valve if shaft is not free
Repack front wheel bearings when wheel is removed for other service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant
Pontiac Part No. 1474829
HB Hydraulic Brake Fluid, Heavy-Duty
MH Graphite mixed with alcohol
MO Motor Oil
MP Multi-Purpose Gear Lubricant
PS Power Steering Fluid
Pontiac Part No. 9771864
SG Steering Gear Lubricant
SP Speedometer Cable Grease
WB Wheel Bearing Grease
WG White Waterproof Grease

PONTIAC V-8

1963-64 All Models Except Tempest

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	53, 61
1963 Opt.	27	72
1964 Opt.	24T	70

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi

	psi
8.6:1CR	140-150*
10.25:1CR, 10.50:1CR, 10.75:1CR	155-165*

* Lowest cylinder pressure should be within 80% of highest cylinder

SPARK PLUGS

AC 45S
Gap: .033"-.038" (.035" preferred)
Torque: 1963, 25 ft. lb.; 1964, 15-25 ft. lb.

IGNITION POINTS

Delco
Gap: .016"
Dwell angle: 28°-32° (30° preferred)

CONDENSER

Delco
Capacity: .18-.23 mfd

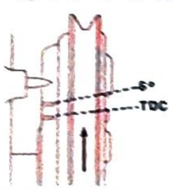
Cylinder Numbering Sequence

Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at harmonic balancer and turn distributor to obtain recommended setting
7. Reconnect distributor vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 6°

FUEL PUMP

AC model 4512; with Air Cond., 6550
Pressure: 5¼-6½ lb. at 500-1000 rpm *
Volume: 1 pint in 45 seconds or less at idle rpm
* Air Cond. at 1800 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER			
4-bbl. AFB	1*	index**	index**
ROCHESTER			
2-bbl. 2GC	1½	index	index
(3) 2-bbl. 2GC	1½†	index	index

* Air bleed screw, initial adjustment, 1½ turns
** 1964, 1 rich
† Idle adjustment on center carburetor only

ENGINE IDLE SPEED

Manual Trans. 480-500 rpm*
Auto. Trans. 480-500 rpm* in DRIVE
Air Cond. 540-560 rpm* in DRIVE with unit turned OFF
* 1964 421 high-output engine:
Manual Trans. 640-660 rpm
Auto. Trans. 640-660 rpm in DRIVE
Air Cond. 690-710 rpm in DRIVE with unit turned OFF

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	19½	18½

Cooling system pressure, 15 pounds

Battery .... Check and fill
Check at least every 30 days

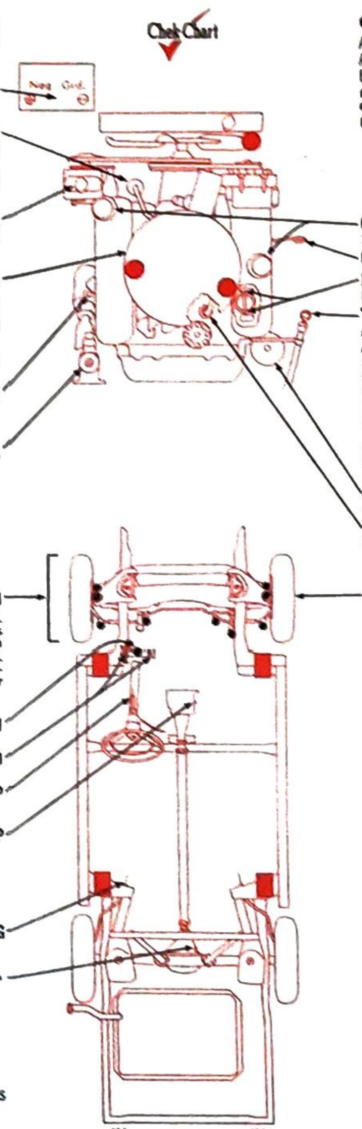
[12] **Fuel Filter Element** .... Service
- In carburetor .... Clean
- In fuel line .... Replace
- Tri-Power .... Replace

[★] **Power Steering Reservoir** .... PS
Fill to level mark or FULL mark on dipstick. Check for leaks

Air Cleaner Element .... Service
- [12] Dry type .... Clean or replace
- [12] Polyurethane .... 10W-30 MO
  Wash and oil
- [6] Wire gauze ...... Wash and oil 10W-30 MO

[★] **Manual Steering Gear (plug on 1963)** .... SG
Check level, also for leaks
1964, to fill, remove center side cover bolt

[★] **Brake Master Cylinder** (plug or cap) .... HB
Check for leaks
Fill to ½ inch below top of fill hole



CRANKCASE .... "MS" MO

Above +32°	20W	10W-30
Above 0°	10W	10W-30
Below 0°	5W	5W-20

CAPACITY 4 quarts except 421-cu. in. engine, 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Caps .... Wash and oil MO [12]
1964, fill cap on right valve cover only

Crankcase Dipstick .... Check level

Manifold Heat Control Valve .... MH [★]
Lubricate if shaft is not free

TRANSMISSION, Automatic .. AF

Check level, engine idling, PARK position .... [★]

CAPACITY, quarts	Initial Refill	Total Refill
Bonneville, Star Chief	6	9
Catalina, Grand Prix	4	6

DRAIN and REFILL .... [24]
Disconnect fill pipe. Bonneville and Star Chief, remove 1 coupling plug
1963, make certain dipstick is locked in place
Under heavy-duty operating conditions or excessive stop-and-go driving, replace fluid every 12,000 miles

Oil Filter (under car) .... Replace [6]
Add extra quart oil

PCV System Valve .... Replace [12]
Also remove and clean hose

[30] **Front Suspension and Steering Linkage** .... (9 fittings) BJ
Lubricated at factory with special lubricant. Relubricate every 12 months or 30,000 miles whichever occurs first, or if noise develops, with Suspension Lubricant, Pontiac Part No. 1474829. If conventional chassis lubricant is used, relubricate every 6 months or 6,000 miles whichever occurs first

[★] **Clutch Lever Pivot** .... BJ

[★] **Clutch Lever Felts and Linkage** .... MO

[C] **Speedometer Cable** .... Coat SP

TRANSMISSION, Manual .. 90 MP

[★] Check level, also for leaks
CAPACITY 3-speed, 1¾ pints
3-speed, heavy-duty, 2¾ pints
4-speed, 2½ pints
DRAIN and REFILL Not recommended

[C] **Parking Brake Cables** .... Coat WG

DIFFERENTIAL .... 90 MP•

[★] Check level, also for leaks
CAPACITY 3¾ pints
DRAIN and REFILL Not recommended
SAFE-T-TRACK IDENTIFICATION:
Metal tag attached to housing near fill plug

GAS TANK .... Gallons

Safari	19
All other models	25

TIRES

Pressure	Front	Rear
8.00-14	24	22
8.50-14	24*	22
8.50-14 Safari	22*	26**

* With air conditioning, increase pressure 2 lbs.
** With heavy load, 30
Caution: 1964 wheel nuts, right-hand thread

[★] Rotate tires, Method B, then balance wheels

Front Wheel Bearings .... Repack WB [C]
Tighten 10-12 ft. lb. while rotating wheel, back off ⅙ turn

BRAKE ADJUSTMENT

Brakes are self-adjusting. If brakes have been relined or the adjustment disturbed, make initial adjustment as follows:

1. Remove wheel, insert .015" feeler through slot in drum to check clearance at both ends of secondary shoe with primary shoe seated against drum
2. Adjust brake with adjusting screw and anchor pin to secure initial feeler drag of 5-10 lb. at both ends of secondary shoe. Tighten anchor pin lock nut to 60-90 ft. lb. To loosen adjusting screw, hold adjuster lever away from adjusting screw with awl or screwdriver and back off adjustment
   Note: Rear brakes have fixed anchors. If drum does not have feeler slot, tighten brake until heavy drag of 14-20 ft. lb. is felt at outer surface of drum. Hold adjuster lever away from adjusting screw with awl or screwdriver and back off adjustment 30 notches (1963); 24 notches (1964)
3. Repeat procedure at each wheel

Bleeding sequence: LF, RF, LR, RR

Position for lift adapter
Lubrication fitting
Cooling system drain

KEY TO INTERVALS

- [★] Every 6,000 miles
- [6] Every 6,000 miles or 6 months
- [12] Every 12,000 miles or 12 months
- [24] Every 24,000 miles or 24 months
- [30] Every 30,000 miles or 12 months
- [C] Conditional service
  - Coat speedometer cable when noisy, or needle flickers
  - Coat parking brake cables at time of brake repair
  - Repack front wheel bearings when wheel is removed for other service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A, Suffix A
- **BJ** Suspension Lubricant, Pontiac Part No. 1474829
- **HB** Hydraulic Brake Fluid, Heavy-Duty
- **MH** Graphite mixed with alcohol
- **MO** Motor Oil
- **MP•** Multi-Purpose Gear Lubricant
- **PS** Power Steering Fluid, Pontiac Part No. 9771864
- **SG** Steering Gear Lubricant
- **SP** Speedometer Cable Grease
- **WB** Wheel Bearing Grease
- **WG** White Waterproof Grease

• Safe-T-Track differential, use only Pontiac special lubricant Part No. 531536

HOOD RELEASE: Front

PONTIAC TEMPEST 6

1964 All Models

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22F	44

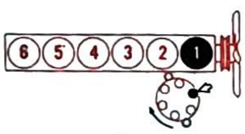
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 140*
* Lowest cylinder pressure should be within 80% of highest cylinder

SPARK PLUGS
AC 46N
Gap: .033"-.038" (.035" preferred)
Torque: 15-25 ft. lb.

IGNITION POINTS
Delco
Gap: .013"-.019" (.016" preferred)
Dwell angle: 31°-34°

CONDENSER
Delco
Capacity: .18-.25 mfd

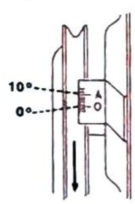
Cylinder Numbering Sequence



Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft pulley and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 4° (Each line equals 2°)

FUEL PUMP
AC mechanical
Pressure: 3½-4½ lb. at 500-1000 rpm
Volume: Not required

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
ROCHESTER 1-bbl. BV	1½	*	*

* Bend choke for adjustment

ENGINE IDLE SPEED
Manual Trans. 580-600 rpm
Auto. Trans. 480-500 rpm in DRIVE
Air Cond. Manual Trans. 580-600 rpm; Auto. Trans. 480-500 rpm in DRIVE; with unit turned OFF and hot idle compensator held shut, if so equipped

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts With Heater
All models 11¼
Cooling system pressure, 15 pounds

★ **Power Steering Reservoir** .... PS
Maintain level between FULL and ADD marks on dipstick. Check for leaks

★ **Manual Steering Gear** .... SG
Check level, also for leaks
To fill, remove center side cover bolt

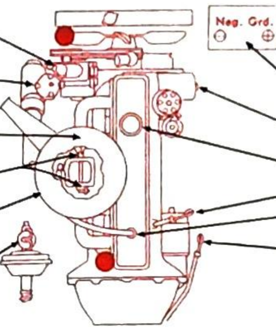
12 **Fuel Filter Element** .... Clean
Located in carburetor

★ **Manifold Heat Control Valve** .... MH
Lubricate if shaft is not free

Air Cleaner Element .... Service
12 Polyurethane .... Wash and oil 10W-30 MO

★ **Brake Master Cylinder (cap)** .... HB
Check for leaks
Fill to ½ inch below top of fill hole

Chek-Chart



CRANKCASE .... "MS" MO

Above +32°	20W	10W-30
Above 0°	10W	10W-30
Below 0°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Check and fill
Check at least every 30 days

Oil Filter (under car) .... Replace 6
Add extra quart oil

Oil Fill Cap .... Wash and oil MO 12

Crankcase Dipstick .... Check level

PCV System Valve .... Replace 12
Also remove and clean hose

TRANSMISSION, Automatic .. AF
Check level, engine idling, PARK position .... ★
CAPACITY 3 quarts
DRAIN and REFILL 24
Remove oil pan
Under heavy-duty operating conditions or excessive stop-and-go driving, replace fluid every 12,000 miles

12 **Front Suspension and Steering Linkage** .... (8 fittings) BJ
Lubricated at factory with special lubricant. Relubricate every 12 months or 12,000 miles whichever occurs first, or if noise develops, with Suspension Lubricant, Pontiac Part No. 1474829. If conventional chassis lubricant is used relubricate every 6 months or 6,000 miles whichever occurs first

★ **Clutch Lever Pivot** .... BJ

C **Speedometer Cable** .... Coat SP

TRANSMISSION, Manual .. 90 MP
★ Check level, also for leaks
CAPACITY 3-speed, 2 pints; 4-speed, 2½ pints
DRAIN and REFILL Not recommended

C **Parking Brake Cables** .... Coat WG

DIFFERENTIAL .... 90 MP*
★ Check level, also for leaks
CAPACITY 3 pints
DRAIN and REFILL Not recommended
SAFE-T-TRACK IDENTIFICATION:
Metal tag attached to housing cover

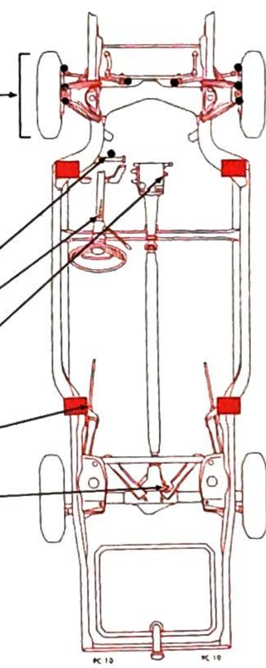
GAS TANK .... Gallons
All models 21½

TIRES .... Pressure

	Front	Rear
6.50-14, 7.00-14	24	22
7.00-14 Safari	24	26
7.50-14	24	22
7.50-14 Safari	24	26

Caution: Wheel nuts, right-hand thread

★ Rotate tires, Method B, then balance wheels



Front Wheel Bearings .... Repack WB C
Tighten to 10-12 ft. lb. while rotating wheel; back off ⅙ turn

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, make initial adjustment as follows:
1. Turn adjusting screw to produce a 14-20 lb. drag on outside of tire
2. With small screw driver hold adjuster lever away from adjusting screw and back off adjustment 30 notches. Drum should turn freely without drag
3. Repeat procedure at each wheel

Bleeding sequence: LF, RF, LR, RR

KEY TO INTERVALS

- ★ Every 6,000 miles
- 6 Every 6,000 miles or 6 months
- 12 Every 12,000 miles or 12 months
- 24 Every 24,000 miles or 24 months
- C Conditional service
  - Coat speedometer cable when noisy, or needle flickers
  - Coat parking brake cables at time of brake repair
  - Repack front wheel bearings when wheel is removed for other service

■ Position for lift adapter
• Lubrication fitting
● Cooling system drain

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A, Suffix A
- **BJ** Suspension Lubricant, Pontiac Part No. 1474829
- **HB** Hydraulic Brake Fluid, Heavy-Duty
- **MH** Graphite mixed with alcohol
- **MO** Motor Oil
- **MP*** Multi-Purpose Gear Lubricant
- **PS** Power Steering Fluid, Pontiac Part No. 9771864
- **SG** Steering Gear Lubricant
- **SP** Speedometer Cable Grease
- **WB** Wheel Bearing Grease
- **WG** White Waterproof Grease

* Safe-T-Track differential, use only Pontiac special lubricant Part No. 531536

PONTIAC TEMPEST V-8

1964 All Models

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
8.6:1CR	24	53
Others	24	61
	24T	70

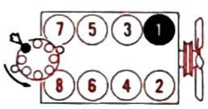
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
8.6:1CR 140-160*
10.5:1CR 170-190*
* Lowest cylinder pressure should be within 80% of highest cylinder

SPARK PLUGS
AC 45S
Gap: .033"-.038" (.035" preferred)
Torque: 15-25 ft. lb.

IGNITION POINTS
Delco
Gap: .013"-.019" (.016" preferred)
Dwell angle: 28°-32° (30° preferred)

CONDENSER
Delco
Capacity: .18-.23 mfd

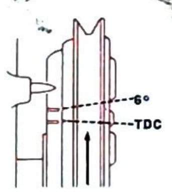
Cylinder Numbering Sequence



Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape line opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at harmonic balancer and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 6°

FUEL PUMP
AC model 6542
Pressure: 5¼-6¾ lb. at 1000 rpm (tested at carburetor height)
Volume: Not required

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER 4-bbl. AFB	1	1 rich	1 rich
ROCHESTER 2-bbl. 2GC	1½	index	index

ENGINE IDLE SPEED
Manual Trans. 580-600 rpm
Auto. Trans. 480-500 rpm in DRIVE
Air Cond.: Manual Trans. 640-660 rpm; Auto. Trans. 540-560 rpm in DRIVE, with unit turned OFF and hot idle compensator held shut, if so equipped

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts With Heater
All models 20½
Cooling system pressure, 15 pounds

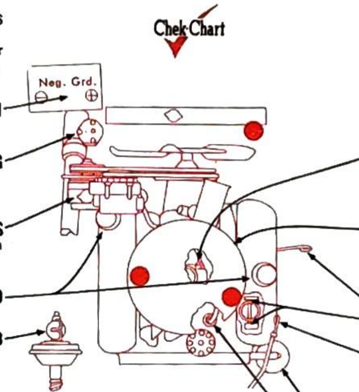
Battery .... Check and fill
Check at least every 30 days

★ **Manual Steering Gear** .... SG
Check level, also for leaks
To fill, remove center side cover bolt

★ **Power Steering Reservoir** .... PS
Maintain level between FULL and ADD marks on dipstick. Check for leaks

12 **Oil Fill Caps** .... Wash and oil MO

★ **Brake Master Cylinder** (cap) .... HB
Check for leaks
Fill to ½ inch below top of fill hole



CRANKCASE .... "MS" MO
Above +32° 20W 10W-30
Above 0° 10W 10W-30
Below 0° 5W 5W-20
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Fuel Filter Element .... Service 12
In carburetor .... Clean
In fuel line .... Replace
Tri-Power .... Replace

Air Cleaner Element .... Service
Dry type .... Clean or replace 12
Polyurethane ..... Wash and oil 10W-30 MO 12
Wire gauze ...... Wash and oil 10W-30 MO 6

Crankcase Dipstick .... Check level

Manifold Heat Control Valve .... MH ★
Lubricate if shaft is not free

TRANSMISSION, Automatic .. AF
Check level, engine idling, PARK position .... ★
CAPACITY 3 quarts
DRAIN and REFILL 24
Remove oil pan
Under heavy-duty operating conditions or excessive stop-and-go driving, replace fluid every 12,000 miles

Oil Filter (under car) .... Replace 6
Add extra quart oil

PCV System Valve .... Replace 12
Also remove and clean hose

12 **Front Suspension and Steering Linkage** .... (8 fittings) BJ
Lubricated at factory with special lubricant. Relubricate every 12 months or 12,000 miles whichever occurs first, or if noise develops, with Suspension Lubricant, Pontiac Part No. 1474829. If conventional chassis lubricant is used relubricate every 6 months or 6,000 miles whichever occurs first

Front Wheel Bearings .... Repack WB C
Tighten to 10-12 ft. lb. while rotating wheel, back off ¼ turn

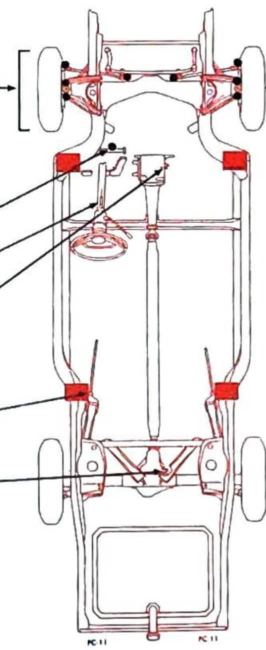
★ **Clutch Lever Pivot** .... BJ

C **Speedometer Cable** .... Coat SP

TRANSMISSION, Manual .. 90 MP
★ Check level, also for leaks
CAPACITY 3-speed, 2 pints; 4-speed, 2½ pints
DRAIN and REFILL Not recommended

C **Parking Brake Cables** .... Coat WG

DIFFERENTIAL .... 90 MP*
★ Check level, also for leaks
CAPACITY 3 pints
DRAIN and REFILL Not recommended
SAFE-T-TRACK IDENTIFICATION:
Metal tag attached to housing cover



GAS TANK .... Gallons
All models 21½

TIRES	Pressure Front	Rear
6.50-14, 7.00-14	24	22
7.00-14 Safari	24	26
7.50-14	24	22
7.50-14 Safari	24	26
7.50-14 GTO-22 series	22	20

Caution: Wheel nuts, right-hand thread

★ Rotate tires, Method B, then balance wheels

■ Position for lift adapter
● Lubrication fitting
● Cooling system drain

BRAKE ADJUSTMENT

Brakes are self-adjusting. Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, make initial adjustment as follows:
1. Turn adjusting screw to produce a 14-20 lb. drag on outside of tire
2. With small screw driver hold adjuster lever away from adjusting screw and back off adjustment 30 notches. Drum should turn freely without drag
3. Repeat procedure at each wheel

Bleeding sequence: LF, RF, LR, RR

KEY TO INTERVALS

★ Every 6,000 miles
6 Every 6,000 miles or 6 months
12 Every 12,000 miles or 12 months
24 Every 24,000 miles or 24 months
C Conditional service
Coat speedometer cable when noisy, or needle flickers
Coat parking brake cables at time of brake repair
Repack front wheel bearings when wheel is removed for other service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant, Pontiac Part No. 1474829
HB Hydraulic Brake Fluid, Heavy-Duty
MH Graphite mixed with alcohol
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
PS Power Steering Fluid, Pontiac Part No. 9771864
SG Steering Gear Lubricant
SP Speedometer Cable Grease
WB Wheel Bearing Grease
WG White Waterproof Grease

* Safe-T-Track differential, use only Pontiac special lubricant Part No. 531536

RAMBLER 6

1961 All Models
Except American

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	45
Air conditioning	24H	60

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
All ....minimum 145

SPARK PLUGS

Champion H-10
Gap: .033"-.037" (.035" preferred)
Torque: 25-30 ft. lb.

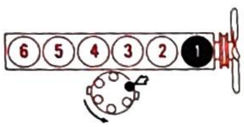
IGNITION POINTS

Delco
Gap: .016"
Dwell angle: 28°-35° (30° preferred)

CONDENSER

Delco
Capacity: .18-.23 mfd

Cylinder Numbering Sequence

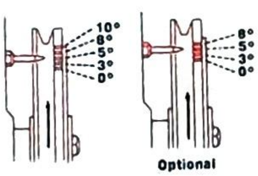


Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Set idle speed with transmission in NEUTRAL
5. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
6. Reset to proper idle speed

Timing Mark and Setting



Optional

Timing Setting (Before Top Dead Center):
Regular fuel, 5°; Premium fuel, 8°

FUEL PUMP

Carter model MDOF-3025SA
Pressure: 4-5½ lb. at 500 rpm
Volume: 1 quart in 1 minute at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER			
1-bbl. AS	¼-1¼	—	index
2-bbl. WCD	½-1½	—	index
HOLLEY			
1-bbl. 1908	1	index	—

ENGINE IDLE SPEED

Manual Trans. 550 rpm
Auto. Trans. 500 rpm in NEUTRAL
Air Cond. 500 rpm in NEUTRAL with unit turned ON

VALVE CLEARANCES

(engine hot and running)
Iron block engine: Intake .012"; exhaust .016"
Aluminum block engine: Hydraulic lifters, non-adjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek Chart

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	10½	9½

Cooling system pressure, 13 pounds

[4] **Oil Fill Cap** .... Wash and oil MO
Left side on cast-iron engine

[5] **Generator** (2 oil cups) .... MO

[★] **Battery** .... Test and fill

Air Cleaner Element .... Service
- [★] Dry type .... Clean
- [TY] Dry type .... Replace
- [★] Oil bath .... Wash and fill MO
  Above +32°, 40 or 50; below +32°, 20

[★] **Steering Gear** (plug) CL

[8] **PCV System Valve** .... Wash CC

Crankcase Dipstick .... Check level
Attached to oil fill pipe on cast-iron engine

[★] **Manual Gearshift Control Lever** CL

[★] **Throttle Linkage** .... MO
Oil wick and all pivot points

[★] **Brake Master Cylinder** (plug) .... HB
Fill to ½ inch below top of fill hole

[10] **Power Brake Air Cleaner Element** .... Wash

[★] **Front Suspension and Steering Linkage** ...... (9 to 11 fittings) CL

[★] **Clutch Operating Shaft** CL
Use low pressure

[★] **Manual Transmission Shift Levers** .... MO

TRANSMISSION, Manual .. 80 GL
20,20W, 10W-30 MO or AF may be used
[★] Maintain level to fill plug hole
CAPACITY 1½ pints; with overdrive, 2¾ pints
DRAIN and REFILL Not recommended
Overdrive, drain and fill thru separate plug holes

[5] **Torque Tube** (fitting, top or bottom) CL
Manual and overdrive transmission models only

DIFFERENTIAL .... 90 MP*
[★] Maintain level to fill plug hole
CAPACITY 3 pints
DRAIN and REFILL Not recommended
TWIN-GRIP IDENTIFICATION:
Metal tag under fill plug

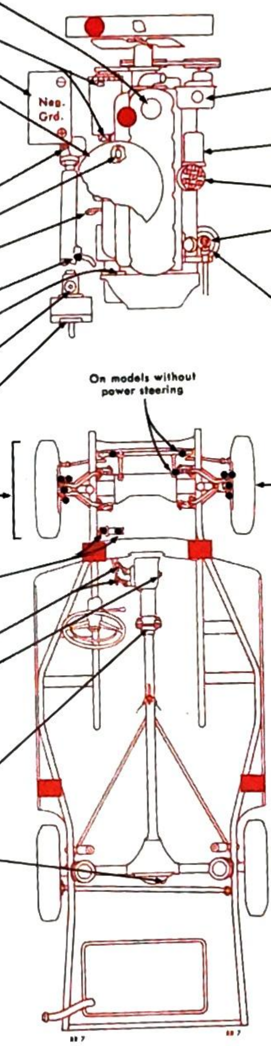
GAS TANK .... Gallons
All models 20

TIRES .... Pressure Front Rear

	Front	Rear
6.50-15	24*	24*
6.70-15	24*	24*

* Full load or extensive highway operation, 30
Captive-Air tires: Inner chamber, 29; outer, 24. Trips of 50 miles or more with full load, inner chamber, 35; outer, 30

[5] Rotate tires, Method A, then balance wheels
Captive-Air tires, Method C



CRANKCASE .... "MS" MO

Above +32°	20,20W	10W-30
Above 0°	10W	10W-30
Below 0°	5W*	5W-20

* For lengthy highway operation, 10W
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Power Steering Reservoir .... AF [★]
Fill to 1 inch from top of reservoir or to bottom of filler neck

Oil Filter .... Replace [4]
Add extra quart oil. Left front on cast-iron engine

Distributor Shaft (plug) .... MO [10]

TRANSMISSION, Automatic . AF
Check level, engine idling, NEUTRAL position [★]

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	10

DRAIN and REFILL .... [25]
Remove 1 converter plug and disconnect fill pipe

Fuel Filter Element .... Replace [12]

Front Wheel Bearings .... Repack WB [10]
With wheel being rotated, initial torque, 20-25 ft. lb. Final adjustment, back off nut ¼ turn, install cotter key

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:

Standard brakes
1. Using a suitable tool inserted into the adjustment opening in the backing plate, expand the shoes until the drum cannot be rotated by hand
2. Back off the adjuster 10 notches
3. Repeat the procedure at each wheel

Self-adjusting brakes
Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, proceed as follows:
1. Use a slender tool inserted into the adjustment opening to hold adjusting lever away from the star wheel
2. Expand shoes until drum is contacted and back off adjuster until drag is eliminated
3. Repeat steps 1 and 2 at each wheel

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

- [★] Every 2,000 miles
- [4] Every 4,000 miles
- [5] Every 5,000 miles
- [8] Every 8,000 miles
- [10] Every 10,000 miles
- [12] Every 12,000 miles
- [25] Every 25,000 miles
- [TY] Twice yearly or every 10,000 miles

- Position for lift adapter
- Lubrication fitting
- Cooling system drain

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A, Suffix A
- **CC** Carburetor Cleaner
- **CL** Chassis Lubricant
- **GL** Straight Mineral Gear Lubricant
- **HB** Hydraulic Brake Fluid, Heavy-Duty SAE 70R3
- **MO** Motor Oil
- **MP*** Multi-Purpose Gear Lubricant
- **WB** Wheel Bearing Grease

* For Twin-Grip differential, use AMC approved lubricant

RAMBLER 6

1961-63 American

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	50
Air conditioning	24H	60
1963 Optional H.D.	24H	70

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
L-head engine .... minimum 130
OHV engine .... minimum 145

SPARK PLUGS

Champion: L-head, H-10; OHV, H-18Y
Gap: .033"-.037"
Torque: 25-30 ft. lb.

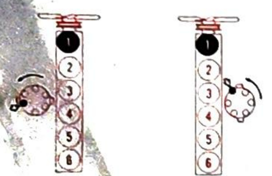
IGNITION POINTS

Autolite, Delco
Gap: Autolite, .018"-.022"; Delco, .016"
Dwell angle: Autolite, 36°-42°; Delco 1961-62, 28°-35°, 1963, 31°-34°

CONDENSER

Autolite, Delco
Capacity: .18-.23 mfd

Cylinder Numbering Sequence

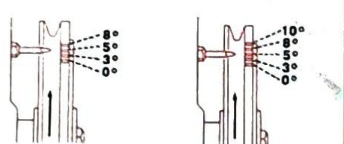


Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Set idle speed with transmission in NEUTRAL
5. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
6. Reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
Regular fuel: L-head, 3°; OHV, Manual Trans., 8°; Auto. Trans. 10°
Premium fuel: L-head, 6°; OHV, Manual Trans., 12°; Auto. Trans., 14°

FUEL PUMP

Carter mechanical
Pressure: 4-5½ lb.: 1961-62 at 1800 rpm, 1963 at 500 rpm
Volume: 1 quart in 1 minute at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER			
1-bbl. YF	½-1½	1 lean	1 lean
1-bbl. RBS	¼-1¼	index	index
2-bbl. WCD	½-1½	index	index
HOLLEY			
1-bbl. 1908	1¼	3 lean	3 lean
1-bbl. 1909	0-2¼	index	index

ENGINE IDLE SPEED

Manual Trans. 550 rpm
Auto. Trans. 500 rpm in NEUTRAL
Air Cond. 500 rpm in NEUTRAL with unit turned ON

VALVE CLEARANCES

(engine hot and running)
OHV engine: Intake .012"; exhaust .016"
(engine cold, not running)
L-head engine: Intake .016", exhaust .018"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
OHV engine	11	10
L-head engine	12	11

Cooling system pressure, 13 pounds

[5] Generator (2 oil cups) 1961 .... MO
★ Battery .... Test and fill
★ Distributor Shaft (oil cup) 1961 ...... 10W MO
[10] OHV engine (plug) 1961 .... 10W MO
[5] Wick under rotor 1961 ...... Sparingly MO
Wick on L-head engine only
[4] Oil Fill Cap .... Wash and oil MO
Crankcase Dipstick .... Check level
Attached to oil fill cap
★ Brake Master Cylinder (1 or 2 caps) .... HB
1961-62, fill to ½ inch below top of fill hole
1963, fill to ¼ inch below top of reservoir
[10] Power Brake Air Cleaner Element 1961 ... Wash
[33] Gearshift Control Shaft CL
★ Throttle Linkage (OHV engine only) .... MO
Wick and all linkage points
★ Front Suspension and Steering Linkage .. (10, 11 or 12 fittings) CL
[33] Pitman Arm Stud .... (plug) LM
1962-63 models with power steering
Lubricate using special adapter. Reinstall plug
★ Steering Gear (plug) .... 90 EP

Clutch Operating Lever
★ 1961 CL
[33] 1962-63 (2 plugs) .... LM
Lubricate using special adapter. Reinstall plugs

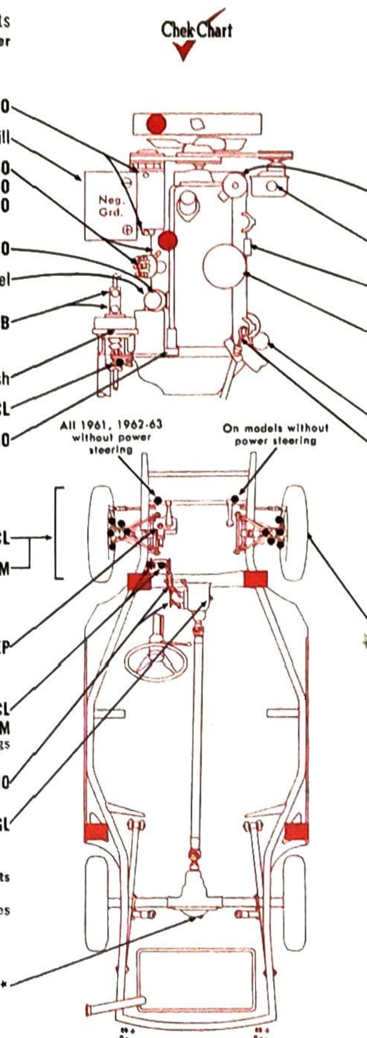
★ Transmission Shift Levers .... MO

TRANSMISSION, Manual .. 80 GL
20,20W, 10W-30 MO or AF may be used
★ Maintain level to fill plug hole
CAPACITY 1½ pints; with overdrive, 2¾ pints
DRAIN and REFILL Not recommended
Overdrive, drain and fill thru separate plug holes

DIFFERENTIAL .... 90 MP*
★ Maintain level to fill plug hole
CAPACITY 3 pints
DRAIN and REFILL Not recommended
TWIN-GRIP IDENTIFICATION:
Metal tag under fill plug

GAS TANK .... Gallons
All models 20

TIRES .... Pressure Front Rear
6.00-15, 6.50-15 .... 24 24
Fully loaded car or extensive highway operation, 30
[4] Rotate tires, Method A, then balance wheels
Every 4,000 to 8,000 miles



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	20,20W	10W-30
Above 0°	10W	10W-30
Below 0°	5W*	5W-20

* For lengthy highway operation, 10W
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Filter .... Replace [4]
Add extra quart oil. Left side on OHV engine
Replace initially at 1,000 miles
Power Steering Reservoir .... AF ★
1961, fill to bottom of filler neck; 1962-63, fill reservoir until oil is halfway up filler neck
PCV System Valve .... Wash CC [8]
On left side of OHV engine. 1963 OHV engine with 1-bbl. carb., no valve, clean tube only
Air Cleaner Element .... Service
Dry type .... Clean [4]
Dry type .... Replace [25]
Oil bath .... Wash and fill MO [4]
Crankcase grade
Fuel Filter Element .... Replace [12]

TRANSMISSION, Automatic . AF
Check level, engine idling, NEUTRAL position .. [4]

CAPACITY, quarts	Initial Refill	Total Refill
1961	5	10
1962-63	5	9

DRAIN and REFILL
Remove 1 converter plug and disconnect fill pipe
1961-62 .... [25]
1963, not recommended

Front Wheel Bearings .... Repack WB
With wheel being rotated, initial torque, 20-25 ft. lb. Final adjustment, back off nut ¼ turn, install cotter key
1961-62 [12] 1963 [25]

BRAKE ADJUSTMENT

1961: With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:
1. Using a suitable tool inserted into the adjustment opening in the backing plate, expand the shoes until the drum cannot be rotated by hand
2. Back off the adjuster 8 notches (10 notches if new linings are installed)
3. Repeat the procedure at each wheel

1962-63: Brakes are self-adjusting. No adjustment normally required. If the brakes have been relined or the adjustment disturbed, proceed as follows:
1. Using a suitable tool inserted into adjusting hole in backing plate, turn star wheel until drum is locked. (A second tool may be required to hold adjusting lever away from star wheel)
2. Back off star wheel 15-20 notches
3. Repeat steps 1 and 2 at each wheel

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ Every 2,000 miles
[4] Every 4,000 miles
[5] Every 5,000 miles
[8] Every 8,000 miles
[10] Every 10,000 miles
[12] Every 12,000 miles
[25] Every 25,000 miles
[33] Every 33,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant
AMC Lithium Base Lubricant
CC Carburetor Cleaner
CL Chassis Lubricant
EP Mild Extreme Pressure Gear Lubricant
GL Straight Mineral Gear Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty SAE 70R3
LM Lithium Grease
AMC Lithium Base Lubricant
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
WB Wheel Bearing Grease

* For Twin-Grip differential, use AMC-approved lubricant

RAMBLER 6
1962-64 Classic

HOOD RELEASE: Front

TUNE-UP DATA
See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	50
Air conditioning	24H	60
1963-64 Optional	24H	70

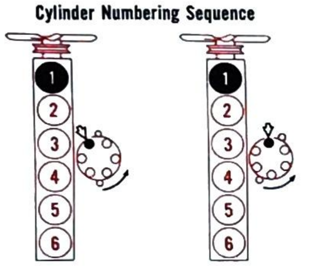
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All .... minimum 145

SPARK PLUGS
Champion H-10, H-18Y
Gap: .033"-.037" (.035" preferred)
Torque: 25-30 ft. lb.

IGNITION POINTS
Delco
Gap: .016"
Dwell angle: 1962, 28°-35° (30° preferred)
1963-64, 31°-34°

CONDENSER
Delco
Capacity: .18-.23 mfd

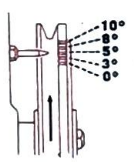
Cylinder Numbering Sequence



Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Set idle speed with transmission in NEUTRAL
5. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
6. Reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
Regular fuel, 5°; Premium fuel, 8°

FUEL PUMP
Carter mechanical
Pressure: 4-5½ lb. at 500 rpm
Volume: 1 quart in 1 minute at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER			
1-bbl. AS	¼-1¼	—	index
1-bbl. RBS	1-1¼	index	index
2-bbl. WCD	½-2	index	index
HOLLEY			
1-bbl. 1908	1	index	—
1-bbl. 1909	0-2¾	1 lean	—

ENGINE IDLE SPEED
Manual Trans. 550 rpm
Auto. Trans. 500 rpm in NEUTRAL
Air Cond. 500 rpm in NEUTRAL with unit turned ON

VALVE CLEARANCES
(engine hot and running)
Iron block engine: Intake .012"; exhaust .016"
Aluminum block engine: Hydraulic lifters, non-adjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	10½	9½

Cooling system pressure, 14 pounds

[8] **Oil Fill Cap** .... Wash and oil MO
Left side on cast-iron engine

[★] **Battery** .... Test and fill

[★] **Steering Gear** (plug) CL
1964 with power steering, no lubrication

[8] **PCV System Valve** .... Wash CC

Air Cleaner Element .... Service
[★] Dry type .... Clean
[25] Dry type .... Replace

Crankcase Dipstick .... Check level
Attached to oil fill pipe on cast-iron engine

[★] **Throttle Linkage** .... MO
Oil wick and all pivot points

[★] **Brake Master Cylinder** (cover or 2 caps) .... HB
1962, fill to ½ inch below top of fill hole; 1963-64, to ¼ inch below top of reservoir

[33] **Pitman Arm Stud** .... (plug) LM
1962-63 with power steering only
Lubricate using special adapter. Reinstall plug

[33] **Front Suspension Trunnions** (4 upper plugs) SB
Lubricate using special adapter. Reinstall plug

[33] **Front Suspension Ball Joints** (2 lower plugs) LM
Lubricate using special adapter. Reinstall plug

[33] **Clutch Operating Lever** (1 or 2 plugs) ..... LM
Lubricate using special adapter. Reinstall plug

[33] **Gearshift Control Shaft** .... LM

[★] **Manual Transmission Shift Levers** .... MO

TRANSMISSION, Manual .. 80 GL
20,20W, 10W-30 MO or AF may be used
[★] Maintain level to fill plug hole
CAPACITY 1½ pints; with overdrive, 2¾ pints
DRAIN and REFILL Not recommended
Overdrive, drain and fill thru separate plug holes

DIFFERENTIAL .... 90 MP*
[★] Maintain level to fill plug hole
CAPACITY 3 pints
DRAIN and REFILL Not recommended
TWIN-GRIP IDENTIFICATION:
Metal tag under fill plug

GAS TANK .... Gallons

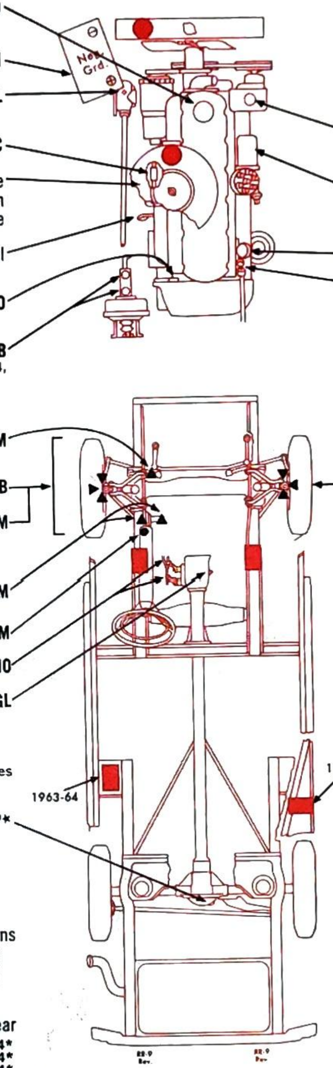
1962 all models	20
1963-64 3-seat station wagon	17
1963-64 all other models	19

TIRES .... Pressure

	Front	Rear
6.50-14	24*	24*
6.50-15	24*	24*
6.70-15	24*	24*
7.00-14	24*	24*

* Full load or extensive highway operation, 30
Captive-Air tires: Inner chamber, 29; outer, 24. Trips of 50 miles or more with full load, inner chamber, 35; outer, 30
LifeGuard tires: Normal operation, 24; full load or extensive highway operation, 30

[★] **Rotate tires, Method A, then balance wheels**
Every 4,000 to 8,000 miles if necessary



Chek-Chart

CRANKCASE .... "MS" MO

Above +32°	20,20W	10W-30
Above 0°	10W	10W-30
Below 0°	5W*	5W-20

* When using 5W, avoid sustained speeds above 65 mph
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Power Steering Reservoir .... AF [★]
Fill reservoir until oil level is halfway up filler neck

Oil Filter .... Replace [★]
Add extra quart oil. Left front on cast-iron engine
Replace initially at 1,000 miles

Fuel Filter .... Replace [12]

TRANSMISSION, Automatic .. AF
Check level, engine idling, NEUTRAL position ... [★]

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	9

DRAIN and REFILL
1962, remove 1 converter plug and transmission plug; 1963-64, remove fill pipe
1962 .... [25]
1963-64 Not recommended

Front Wheel Bearings .... Repack WB
1962 .... [12]
1963-64 .... [25]
With wheel being rotated, initial torque, 20-25 ft. lb.; final adjustment, back off nut ¼ turn, install cotter key

BRAKE ADJUSTMENT
Self-adjusting brakes
Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, proceed as follows:
Early 1962
1. Use a slender tool inserted into the adjustment opening to hold adjusting lever away from the star wheel
2. Expand shoes until drum is contacted and back off adjuster until drag is eliminated
3. Repeat steps 1 and 2 at each wheel

Late 1962, 1963-64
1. Using a suitable tool inserted into adjusting hole in backing plate, turn star wheel until drum is locked
2. Back off star wheel 15-20 notches
3. Repeat steps 1 and 2 at each wheel

Bleeding sequence: RR, LR, RF, LF

Position for lift adapter
▲ Prepacked bearing
• Lubrication fitting
● Cooling system drain

KEY TO INTERVALS
[★] Every 4,000 miles
[8] Every 8,000 miles
[12] Every 12,000 miles
[25] Every 25,000 miles
[33] Every 33,000 miles or 3 years

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CC Carburetor Cleaner
CL Chassis Lubricant
GL Straight Mineral Gear Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty SAE 70R3
LM Lithium Grease
AMC Lithium Base Lubricant
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
SB AMC Sodium Base Lubricant
WB Wheel Bearing Grease

* For Twin-Grip differential, use AMC-approved lubricant

RAMBLER V-8

1962-64 Ambassador, Classic

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24H	60
1963-64 Optional	24H	70

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
All .... minimum 145

SPARK PLUGS

Champion H-10, H-18Y
Gap: .033"-.037" (.035" preferred)
Torque: 25-30 ft. lb.

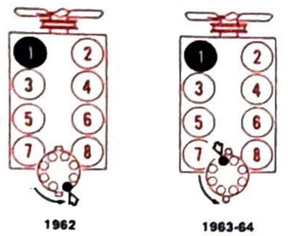
IGNITION POINTS

Delco, Prestolite
Gap: Delco .016"; Prestolite .018"-.022"
Dwell angle: 28°-32°

CONDENSER

Delco, Prestolite
Capacity: .18-.23 mfd

Cylinder Numbering Sequence

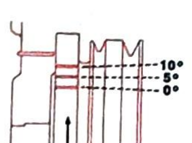


Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Set idle speed with transmission in NEUTRAL
5. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
6. Reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
Ambassador
Regular fuel: 2-bbl. carb., Manual Trans. TDC; Auto. Trans. 5°
Premium fuel: 2-bbl. carb., Manual Trans. 3°; Auto. Trans., 8°; 4-bbl. carb., 5°
Classic
Regular fuel: Manual and Auto. Trans. 5°
Premium fuel: Manual and Auto. Trans. 8°

FUEL PUMP

Carter mechanical
Pressure: 4-5½ lb. at 500 rpm
Volume: 1 quart in 1 minute or less at 500 rpm

CARBURETOR ADJUSTMENT

HOLLEY	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
2-bbl. 2300	1	index	index
4-bbl. 4150-C	1	1 lean	1 lean

ENGINE IDLE SPEED

Manual Trans. 550 rpm
Auto. Trans. 475* rpm in NEUTRAL
Air Cond. 500 rpm in NEUTRAL with unit turned ON
* 1964, 500 rpm

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	19	18

Cooling system pressure, 14 pounds

[★] **Power Steering Reservoir** .... AF
Fill to 1 inch from top of reservoir

[★] **Steering Gear** (plug) CL
1964 with power steering, no lubrication

[8] **PCV System Valve** .... Wash CC

Crankcase Dipstick .... Check level
1962, right side

[★] **Oil Filter** (under car) .... Replace
Add extra quart oil. Replace initially at 1,000 miles

[★] **Throttle Linkage** .... MO
Oil wick and all pivot points

[★] **Brake Master Cylinder** (cover or 2 caps) .... HB
1962, fill to ½ inch below top of fill hole; 1963-64, to ¼ inch below top of reservoir

[33] **Pitman Arm Stud** .... (plug) LM
1962-63 with power steering only
Lubricate using special adapter. Reinstall plug

[33] **Front Suspension Trunnions** (4 upper plugs) SB
Lubricate using special adapter. Reinstall plug

[33] **Front Suspension Ball Joints** (2 lower plugs) LM
Lubricate using special adapter. Reinstall plug

[33] **Clutch Operating Lever** (1 or 2 plugs) ...... LM
Lubricate using special adapter. Reinstall plug

[33] **Gearshift Control Shaft** .... LM

[★] **Manual Transmission Shift Levers** .... MO

TRANSMISSION, Manual .. 80 GL
20,20W, 10W-30 MO or AF may be used
[★] Maintain level to fill plug hole
CAPACITY Ambassador, 4 pints, with or without overdrive; Classic, 2¼ pints, with overdrive, 3½ pints
DRAIN and REFILL Not recommended
Overdrive, and extension housing on models without overdrive, drain and fill thru separate plug holes

DIFFERENTIAL .... 90 MP*
[★] Maintain level to fill plug hole
CAPACITY 4 pints
DRAIN and REFILL Not recommended
TWIN-GRIP IDENTIFICATION:
Metal tag under fill plug

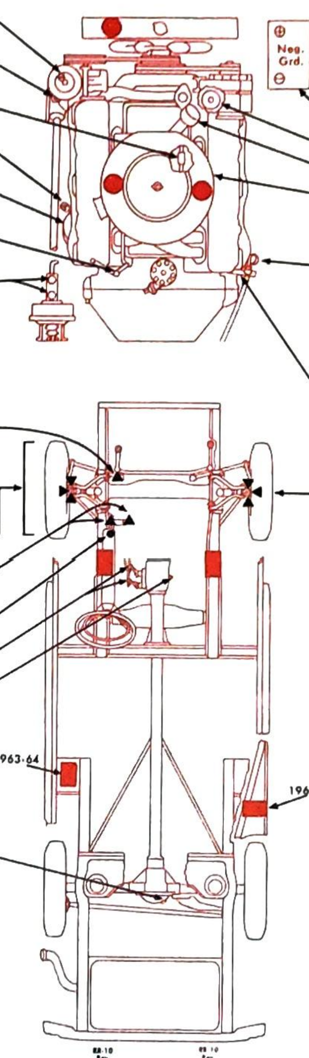
GAS TANK .... Gallons

1962 all models	20
1963-64 3-seat station wagon	17
1963-64 all other models..............	19

TIRES .... Pressure	Front	Rear
7.50-14	24*	24*
8.00-14	22*	20*

* Full load or extensive highway operation, 30
Captive-Air tires: Inner chamber, 29; outer, 24
Trips of 50 miles or more with full load, inner chamber, 35; outer, 30
LifeGuard tires: Normal operation, 24; full load or extensive highway operation, 30

[★] **Rotate tires, Method A, then balance wheels**
Every 4,000 to 8,000 miles if necessary



Position for lift adapter
▲ Prepacked bearing
● Lubrication fitting
⬤ Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	20,20W	10W-30
Above 0°	10W	10W-30
Below 0°	5W*	5W-20

* When using 5W, avoid sustained speeds above 65 mph
CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill [★]
Fuel Filter .... Replace [12]
Oil Fill Cap .... Wash and oil MO [8]
Air Cleaner Element .... Service
Dry type .... Clean [★]
Dry type .... Replace [25]

TRANSMISSION, Automatic .. AF
Check level, engine idling, NEUTRAL position ... [★]

CAPACITY, quarts	Initial Refill	Total Refill
All models	6	11

DRAIN and REFILL
1962, remove 2 converter plugs and disconnect fill pipe; 1963-64, remove fill pipe
1962 .... [25]
1963-64 Not recommended

Manifold Heat Control Valve Shaft .... MH [★]

Front Wheel Bearings .... Repack WB
1962 .... [12]
1963-64 .... [25]
With wheel being rotated, initial torque, 20-25 ft. lb.; final adjustment, back off nut ⅙ turn, install cotter key

BRAKE ADJUSTMENT

Self-adjusting brakes
Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, proceed as follows:

1. Using a suitable tool inserted into adjusting hole in backing plate, turn star wheel until drum is locked
2. Back off star wheel 15-20 notches. (A second tool may be required to hold adjusting lever away from star wheel)
3. Repeat steps 1 and 2 at each wheel

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

[★] Every 4,000 miles
[8] Every 8,000 miles
[12] Every 12,000 miles
[25] Every 25,000 miles
[33] Every 33,000 miles or 3 years

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CC Carburetor Cleaner
CL Chassis Lubricant
GL Straight Mineral Gear Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty SAE 70R3
LM Lithium Grease
AMC Lithium Base Lubricant
MH Graphite mixed with kerosine
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
SB AMC Sodium Base Lubricant
WB Wheel Bearing Grease

* For Twin-Grip differential, use AMC-approved lubricant

RAMBLER 6

1964 American

HOOD RELEASE: Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	50
Air conditioning	24H	60
Optional	24H	70

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
L-head engine ....minimum 130
OHV engine ....minimum 145

SPARK PLUGS

Champion: H-10, H-18Y
Gap: .033"-.037"
Torque: 25-30 ft. lb.

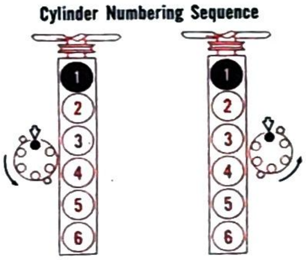
IGNITION POINTS

Delco
Gap: .016"
Dwell angle: 31°-34°

CONDENSER

Delco
Capacity: .18-.23 mfd

Cylinder Numbering Sequence



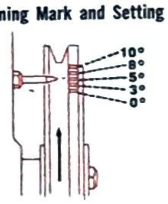
L-head OHV

Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Set idle speed with transmission in NEUTRAL
5. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
6. Reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
Regular fuel: L-head, 3°; OHV: Manual Trans. 8°; Auto. Trans. 10°
Premium fuel: L-head, 6°; OHV: Manual Trans. 12°; Auto. Trans. 14°

FUEL PUMP

Carter mechanical
Pressure: 4-5½ lb. at 500 rpm
Volume: 1 quart in 1 minute at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER			
1-bbl RBS	¼-1¼	index	index
2-bbl. WCD	½-2	index	index
HOLLEY			
1-bbl. 1909	0-2¾	index	index

ENGINE IDLE SPEED

Manual Trans. 550 rpm
Auto. Trans. 500 rpm in NEUTRAL
Air Cond. 500 rpm in NEUTRAL with unit turned ON

VALVE CLEARANCES

(engine hot and running)
OHV engine: Intake .012"; exhaust .016"
(engine cold, not running)
L-head engine: Intake .016"; exhaust .018"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
OHV engine	11	10
L-head engine	12	11

Cooling system pressure, 14 pounds

★ Battery ....Test and fill

★ Manual Steering Gear (plug)..........90 EP

★ Oil Filter ....Replace
Add extra quart oil. Right side on L-head engine
Replace initially at 1,000 miles

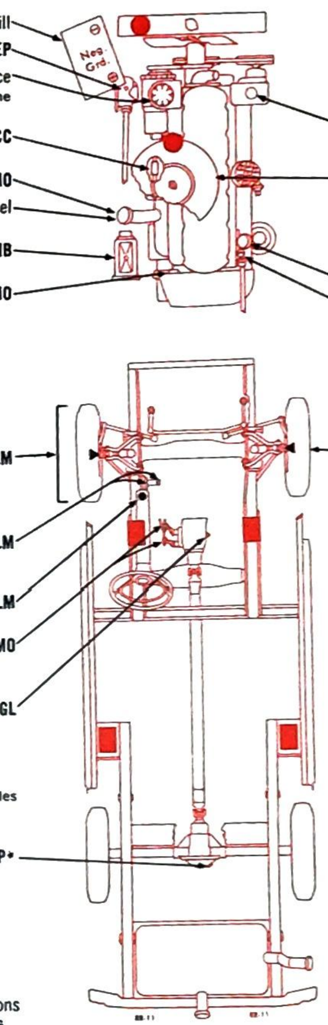
[8] PCV System Valve................Wash CC
Right side on L-head engine

[8] Oil Fill Cap..............Wash and oil MO

Crankcase Dipstick.............Check level
Attached to oil fill cap

★ Brake Master Cylinder (cover)............HB
Fill to ¼ inch below top of reservoir

★ Throttle Linkage (OHV engine only)........MO
Wick and all linkage points



CRANKCASE ...."MS" MO

Above +32°	20,20W	10W-30
Above 0°	10W	10W-30
Below 0°	5W*	5W-20

* When using 5W, avoid sustained speeds above 65 mph

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Power Steering Reservoir...............AF ★
Fill reservoir until oil is halfway up filler neck

Air Cleaner Element ....Service
Dry type ....Clean ★
Dry type ....Replace [25]
Oil bath...............Wash and fill MO ★
Crankcase grade

Fuel Filter Element..................Replace [12]

TRANSMISSION, Automatic..AF

Check level, engine idling, NEUTRAL position... ★

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	9

DRAIN and REFILL Not recommended
Disconnect fill pipe

Front Wheel Bearings...........Repack WB [25]
With wheel being rotated, initial torque 20-25 ft. lb. Final adjustment, back off nut ¼ turn, install cotter key

[33] Front Suspension Ball Joints (2 lower plugs) LM
Lubricate using special adapter. Reinstall plug

[33] Clutch Operating Lever.................LM
Disassemble and repack both sides

[33] Gearshift Control Shaft (under hood)......LM

★ Transmission Shift Levers...............MO

TRANSMISSION, Manual..80 GL

20,20W, 10W-30 MO or AF may be used
★ Maintain level to fill plug hole
CAPACITY 1½ pints; with overdrive, 2¾ pints
DRAIN and REFILL Not recommended
Overdrive, drain and fill thru separate plug holes

DIFFERENTIAL...........90 MP*

★ Maintain level to fill plug hole
CAPACITY 3 pints
DRAIN and REFILL Not recommended
TWIN-GRIP IDENTIFICATION:
Metal tag under fill plug

GAS TANK...................Gallons

All models 16

TIRES...........Pressure Front Rear

6.00-14, 6.50-14, 6.00-15.......... 24 24
Fully loaded car or extensive highway operation, 30

★ Rotate tires, Method A, then balance wheels
Every 4,000 to 8,000 miles if necessary

BRAKE ADJUSTMENT

Self-adjusting brakes
Adjustment is not normally required. If the brakes have been relined or the adjustment disturbed, proceed as follows:

1. Using a suitable tool inserted into adjusting hole in backing plate, turn star wheel until drum is locked
2. Back off star wheel 15-20 notches. (A second tool may be required to hold adjusting lever away from star wheel)
3. Repeat steps 1 and 2 at each wheel

Bleeding sequence: RR, LR, RF, LF

Position for lift adapter
▲ Prepacked bearing
● Lubrication fitting
Cooling system drain

KEY TO INTERVALS

★ Every 4,000 miles
[8] Every 8,000 miles
[12] Every 12,000 miles
[25] Every 25,000 miles
[33] Every 33,000 miles or 3 years

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CC Carburetor Cleaner
EP Mild Extreme Pressure Gear Lubricant
GL Straight Mineral Gear Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty SAE 70R3
LM Lithium Grease
AMC Lithium Base Lubricant
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
WB Wheel Bearing Grease

* For Twin-Grip differential, use AMC-approved lubricant

STUDEBAKER 6

1959-63 All Models

HOOD RELEASE: Front, Hawk; Inside, Lark

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	50

COMPRESSION PRESSURE
(at cranking speed with throttle open)

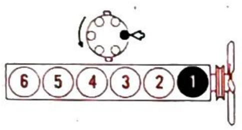
	psi
1959-60	130-150
1961-63	140-160

SPARK PLUGS
Champion: 1959-60, J-7; 1961-63, H-14Y
Gap: L-head, .030"; OHV, .035"
Torque: L-head, 30 ft. lb.; OHV, 25-30 ft. lb.

IGNITION POINTS
Autolite, Prestolite
Gap: 1959-61, .020"; 1962-63, .017"-.022"
Dwell angle: L-head, 38°-40°; OHV, 37°-41°

CONDENSER
Autolite, Prestolite — Capacity: .21-.25 mfd

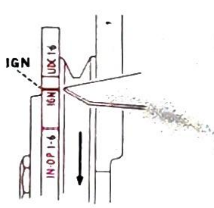
Cylinder Numbering Sequence



Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 2°

FUEL PUMP
AC model: 1959 early to Serial No. 59S 68806, 5594703, 1959 late, 1960-63, 5594798
Pressure: 1959-60, 3½-5 lb.; 1961-63, 4-5½ lb.; at 1800 rpm
Volume: Minimum 1 pint in 30 seconds at 4000 rpm

CARBURETOR ADJUSTMENT

CARTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
1-bbl. AS	1	index	index
1-bbl. RBS	1	index	index

ENGINE IDLE SPEED
Manual Trans. 550-600 rpm
Auto. Trans., 1959, 550 rpm; 1960-63, 575-590 rpm; in NEUTRAL
Air Cond. 590 rpm in NEUTRAL, unit turned ON

VALVE CLEARANCES
(engine cold, not running)
L-head: Intake .018"; exhaust .018"
(engine hot and running)
OHV: Intake .023"-.025"; exhaust .023"-.025"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
Hawk	12½	11
Lark	12	11

Cooling system pressure, 13 pounds

[5] **Power Steering Reservoir** 1961-63 .... AF
Fill to level indicated on cover

★ **Battery** .... Test and fill

★ **Generator** (2 oil cups) Not on 1963 .... MO

[4] **Oil Filter** .... Replace, add extra quart oil
Some 1962, all 1963 at right rear of engine, under car

Distributor Shaft (oil cup) .... MO
[5] 1959-60 ★ 1961-63
[10] Wick under rotor .... MO

Steering Gear (plug)
[5] 1961-63 Lark CL
For refill, Studebaker Lub. Part No. 50248
[5] 1959-60 Lark, except convertible ... 140 GL
Fill to level of top cap screw on left side of housing
[5] 1959-60 Hawk and convertible ...... 90 GL

★ **Gearshift Rod Upper Ends** .... MO

★ **Gearshift Control Lever** CL
Not on 1962 and 1963 with automatic transmission

★ **Power Brake Cyl. Air Cleaner Element** .. 10W MO
Wash and oil. 1963, no service

[20] **Power Brake Vacuum Cyl.** 1959-60 (plug) 1 oz. VO

★ **Front Suspension and Steering Linkage** ..... (17 or 18 fittings) CL

★ **Clutch Release Shaft** CL

★ **Pedal Shaft** 1959-60 CL

★ **Clutch Pedal Linkage** .... MO

[5] **Brake Master Cylinder** (plug) (thru floor) .... HB
1961-63 models, serviced from under hood
Fill to ½ inch below top of fill hole

TRANSMISSION, Manual .. GL, MO
80GL or 30MO
★ Maintain level to fill plug hole
CAPACITY 2¼ pints; with overdrive, 3¼ pints
[10] DRAIN and REFILL
Overdrive, drain and fill thru separate plug holes

★ **Parking Brake Linkage** .... MO

[20] **Universal Joints** .... Repack UJ

[25] **Rear Wheel Bearings** .... Repack WB
Necessary to remove rear axle shafts

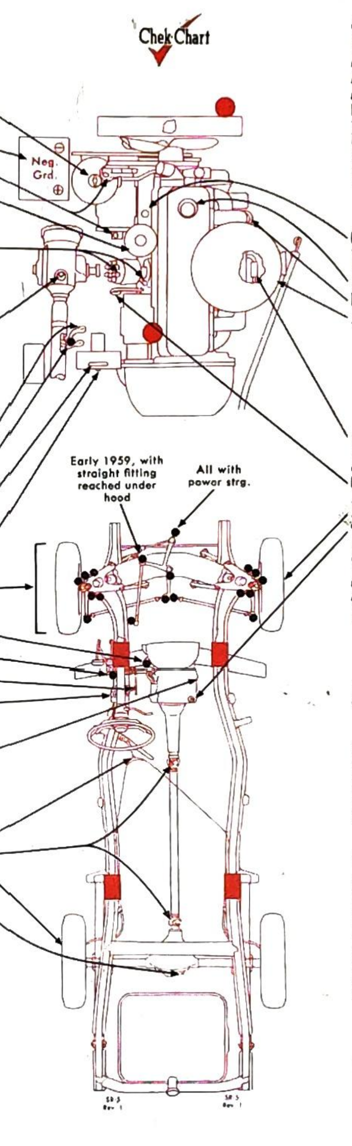
DIFFERENTIAL .... HP*, GL4*
Above 0°, 90; below 0°, 80
80 grade not recommended for year-round use
★ Maintain level to fill plug hole
CAPACITY 2½ pints
[C] DRAIN and REFILL
To drain 1960-63, remove cover plate
TWIN-TRACTION IDENTIFICATION:
TT insignia on rear of car. Some 1959, by red sticker on left front door just above lock. Also by metal tag stamped with number "45" attached to housing

GAS TANK .... Gallons
All models 18

TIRES

	Pressure Front	Rear
5.90-15, 6.00-15, 6.40-15, 6.50-15, 6.70-15	24	20
5.90-15, 6.00-15, 6.40-15, 6.50-15, station wagon	26	26
Captive-Air 6.40-15, station wagon	24	24
Captive-Air 6.50-15, 6.70-15, other models	24	22
All, sustained high speeds	30	30

[4] **Rotate tires**, Method B, then balance wheels
Captive-Air tires, Method C



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO
1959-early 1962 (Bypass filter)

Above +32°	30	10W-30*
Above +10°	20W	10W-30
Above −10°	10W	10W-30
Below −10°	5W	5W-20

*20W-40 for severe service
Late 1962 and 1963 (Full-flow filter), recommendations same as for 1964. See Chart SR-8
CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Crankcase Breather Element .... Wash [10]
1961, at rear right side of engine
Not on models with PCV system

Oil Fill Cap .... Wash and oil MO ★

Fuel Filter Element 1960-63 .... Replace [10]

Air Cleaner Element .... Service
Dry type .... Clean
1959-62 ★ 1963 [4]
Dry type .... Replace
1959-62 [10] 1963 [20]
Oil bath .... Wash and fill MO ★
Above +32°, 40 or 50; below +32°, 20

PCV System Valve .... CC [10]
Remove and clean valve. More frequently if required

Crankcase Dipstick .... Check level

Front Wheel Bearings .... Repack WB [10]

TRANSMISSION, Automatic .. AF
1961-63 models, dipstick under hood
Check level, engine idling, DRIVE position, except 1963 Model 35, P or N position ★

CAPACITY, quarts	Initial Refill	Total Refill
All models	3*	9

*Immediately after engine is started, add 4 quarts
DRAIN and REFILL
1959-62 Flightomatic .... [15]
1963 Flightomatic ex. Model 35 .... [20]
1963 Flightomatic Model 35 .... [C]
Remove converter plug and transmission plug except 1961-63, remove fill tube

BRAKE ADJUSTMENT

1959-62
With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:
1. Use a suitable tool inserted into the adjustment opening to expand the shoes until they are locked against the drum
2. Back off the adjustment 8 or more notches until the drum turns freely without drag
3. Repeat procedure at each wheel

1963: Brakes are self-adjusting. No adjustment normally required
Optional: Disc brakes on front, self-adjusting. Replace front linings when worn to ¼" thickness. Drum brakes on rear, adjust as indicated on Chart SR-8
Bleeding sequence: RR, LR, RF, LF If equipped, bleed power brake first, then Hill-Holder, then wheel cylinders

KEY TO INTERVALS

★ Every 1,000 miles
[4] Every 4,000 miles
Oil Filter: Every 4,000 miles or 6 months
[5] Every 5,000 miles
[10] Every 10,000 miles
[15] Every 15,000 miles
[20] Every 20,000 miles or yearly
[25] Every 25,000 miles
[C] Conditional service
Drain and refill differential only for below 0° requirements
Drain and refill 1963 Flightomatic Model 35 transmission only if required by operating conditions

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- AF Automatic Transmission Fluid, Type A, Suffix A
- CC Carburetor Cleaner
- CL Chassis Lubricant
- GL Straight Mineral Gear Lubricant
- GL4* Multipurpose-Type Gear Lubricant API Service GL4
- HB Hydraulic Brake Fluid, Heavy-Duty
- HP* Hypoid Gear Lubricant
- MO Motor Oil
- UJ Universal Joint Grease
- VO Vacuum Cylinder Oil
- WB Wheel Bearing Grease

* For Twin-Traction differential, use Studebaker Twin-Traction Lubricant

STUDEBAKER V-8

1959-63 Cruiser, Hawk, Lark

HOOD RELEASE: Inside except 1959-62 Hawk, Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	50

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi

	psi
Jet Thrust (JT)	185-195
Jet Thrust Supercharged (JTS)	160-170
Others	140-160

SPARK PLUGS

Champion: Jet Thrust, Supercharged, normal driving, J-12Y; high-speed driving, J-10Y; others, H-14Y
Gap: .035"
Torque: 30 ft. lb.

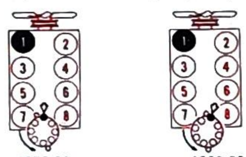
IGNITION POINTS

Autolite, 1962; Delco, 1959-61; Prestolite, 1963
Gap: 1959-61, .013"-.018"; 1962, 1963 ex. JT, JTS eng., .014"-.019"; 1963 JT, JTS, .019"
Dwell angle: 1959, 28°-34°; 1960-61, 28°-32°; 1962-63 ex. 1963 JT, JTS eng., single or each set of dual points, 27°-31°, dual points, total dwell, 36°-42°; 1963 JT, JTS eng., each set, 22°-26°, total dwell, 32°-36°

CONDENSER

Autolite, 1962; Delco, 1959-61; Prestolite, 1963
Capacity: 1959-61, .18-.23 mfd; 1962-63, .21-.25 mfd

Cylinder Numbering Sequence



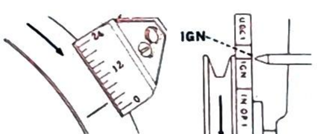
Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed* with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

* JTS, 1600 rpm

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
Jet Thrust, 4° at idle rpm
Jet Thrust Supercharged, 24° at 1600 rpm
(Each line equals 2°)
Others, 4° at idle rpm

FUEL PUMP

Carter model: 1959 early to Serial No. V444791, M-2573SA; 1959 late, 1960-61, M-2573S; 1962-63, Lark, MF-3155S, Hawk, M-2573SA; JT, M-3509S; JTS, M-3508S
Pressure: 1959-60, 3½-5 lb.; 1961-63, 4-5½ lb.; at 1800 rpm; 1963 JT, JTS, 5½-7 lb. at 1000 rpm
Volume: Minimum 1 pint in 15 seconds (JT, JTS); 30 seconds (other engines). JT, JTS at idle rpm; others at 4000 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER 4-bbl. WCFB	1	1 rich	1 rich
JT, JTS 4-bbl. AFB	1	index	index
STROMBERG 2-bbl. WW	1¼	index	index

ENGINE IDLE SPEED

Manual Trans. 550-575 rpm*
Auto. Trans. 550 rpm* in NEUTRAL
Air Cond. 550 rpm in NEUTRAL, unit turned ON
* JT, JTS engines: Manual Trans. 650 rpm; Auto. Trans. 650 rpm in NEUTRAL

VALVE CLEARANCES

(engine hot and running)
JT, JTS engines: Intake .025"-.027"; exhaust .025"-.027"
Others: Intake .023"-.025"; exhaust .023"-.025"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
Hawk	18½	17
Lark, Cruiser	18	17

Cooling system pressure, 13 pounds

★ Battery At rear on Hawk .... Test and fill
10 Fuel Filter Element 1960-63 .... Replace
5 Power Steering Reservoir .... AF
Fill to level indicated on reservoir or cover
★ Power Brake Cyl. Air Cleaner Element 10W MO
1961-62, at rear. Wash and oil. 1963, no service
20 Power Brake Vacuum Cyl. (plug) ..... 1 oz. VO
On 1959-60 Lark, 1959-62 Hawk, 1963 Hawk with disc brakes

Steering Gear (plug)
5 1961-63 Lark, 1963 Cruiser CL
For refill, Studebaker Lub. Part No. 5024B
5 Some 1959 Hawk with power steering 90 MP
5 All other models .... 90 GL

Distributor Shaft (oil cup) .... MO
5 1959; 1960-61 Hawk ★ Others
10 Wick under rotor, some models .... MO
5 Felt under plate, 1959; 1960-61 Hawk .. MO
★ Gearshift Rod Upper Ends .... MO
★ Gearshift Control Lever CL
★ Front Suspension and Steering Linkage ..... (17 or 18 fittings) CL
★ Clutch Release Shaft CL
★ Pedal Shaft Hawk, 1959-60 Lark CL
★ Clutch Pedal Linkage .... MO
5 Brake Master Cylinder (plug) (thru floor) .... HB
1963 Hawk with disc brakes, 1961-63 Lark, 1963 Cruiser, under hood
Fill to ½ inch below top of fill hole

TRANSMISSION, Manual

★ Maintain level to fill plug hole
4-speed .... 80 GL
CAPACITY 2½ pints
Others .... GL, MO
80GL or 30MO
CAPACITY 3¼ pints; with overdrive, 4 pints
10 DRAIN and REFILL
Overdrive, drain and fill thru separate plug holes
★ Parking Brake Linkage .... MO
20 Universal Joints .... Repack UJ
25 Rear Wheel Bearings .... Repack WB
Necessary to remove axle shafts

DIFFERENTIAL .... HP*, GL4*

Above 0°, 90; below 0°, 80
80 grade not recommended for year-round use
★ Maintain level to fill plug hole
CAPACITY 2½ pints, except 1960-63 Hawk, 1963 Cruiser and all station wagons, 3 pints
C DRAIN and REFILL
To drain 1960-63, remove cover plate
TWIN-TRACTION IDENTIFICATION:
TT insignia on rear of car. Some 1959, by red sticker on left front door just above lock. Also by metal tag stamped with number "45" attached to housing

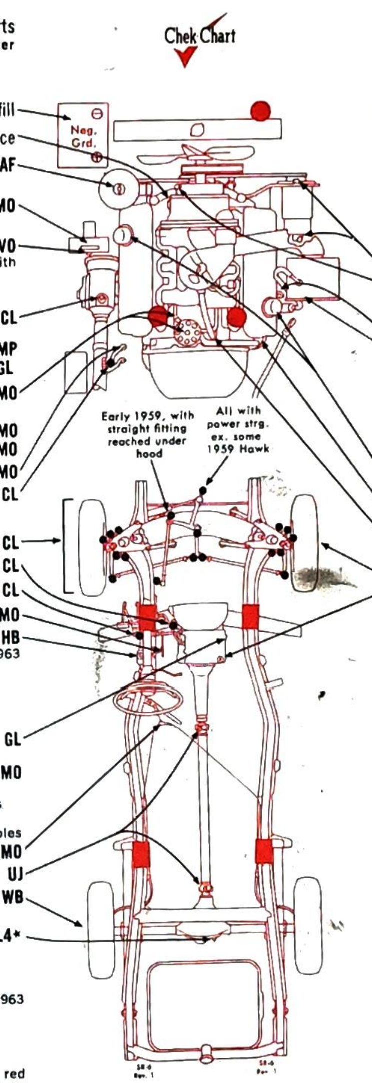
GAS TANK .... Gallons

All models 18

TIRES

............Pressure	Front	Rear
6.40-15, 6.50-15, 6.70-15	24	20
Station wagon	24	24
6.70-15, 4 or more passengers	26	26
Captive-Air 6.70-15, station wagon	24	24
All, sustained high speeds	30	30

4 Rotate tires, Method B, then balance wheels
Captive-Air tires, Method C



Position for lift adapter
• Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO

1959-early 1962 (Bypass filter)

Above +32°	30	10W-30*
Above +10°	20W	10W-30
Above −10°	10W	10W-30
Below −10°	5W	5W-20

*20W-40 for severe service
Late 1962 and 1963 (Full-flow filter), recommendations same as for 1964. See Chart SR-9
CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Generator (2 oil cups) Not on 1963 .... MO ★
Supercharger .... AF
Maintain level between marks on dipstick ...... ★
DRAIN and REFILL 15
Crankcase Dipstick .... Check level
Air Cleaner Element .... Service
Dry type .... Clean
1959-62 ★ 1963 4
Dry type .... Replace
1959-62 10 1963 20
Oil bath .... Wash and fill MO ★
Above +32°, 40 or 50; below +32°, 20
Oil Fill Caps .... Wash and oil MO ★
1959-62 cap, at center of engine, forward
Oil Filter .... Replace, add extra quart oil 4
1959-62, on left side of engine, forward
PCV System Valve .... CC 10
Remove and clean valve. More frequently if required
Front Wheel Bearings .... Repack WB 10

TRANSMISSION, Automatic .. AF

1961 Lark and 1962-63 models, dipstick under hood
Check level, engine idling, DRIVE position ...... ★

CAPACITY, quarts	Initial Refill	Total Refill
All models	3*	9◆

*Immediately after engine is started, add 4 quarts
◆ With heavy-duty, water-cooled transmission, 9½ quarts
DRAIN and REFILL
1959-62 15 1963 20
Remove converter plug and transmission plug, except 1961 Lark and 1962-63 models, remove fill tube

BRAKE ADJUSTMENT

1959-62
With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:
1. Use a suitable tool inserted into adjustment opening to expand shoes until they are locked against drum
2. Back off the adjustment 8 or more notches until drum turns freely without drag
3. Repeat procedure at each wheel

1963: Brakes are self-adjusting. No adjustment normally required
Optional: Disc brakes on front, self-adjusting. Replace front linings when worn to ⅛" thickness. Drum brakes on rear, adjust as indicated on Chart SR-9
Bleeding sequence: RR, LR, RF, LF If equipped, bleed power brake first, then Hill-Holder, then wheel cylinders

KEY TO INTERVALS

★ Every 1,000 miles
4 Every 4,000 miles
Oil Filter: Every 4,000 miles or 6 months
5 Every 5,000 miles
10 Every 10,000 miles
15 Every 15,000 miles
20 Every 20,000 miles or yearly
25 Every 25,000 miles
C Conditional service
Drain and refill differential only for below 0° requirements

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CC Carburetor Cleaner
CL Chassis Lubricant
GL Straight Mineral Gear Lubricant
GL4* Multipurpose-Type Gear Lubricant API Service GL4
HB Hydraulic Brake Fluid, Heavy-Duty
HP* Hypoid Gear Lubricant
MO Motor Oil
MP Multi-Purpose Gear Lubricant
UJ Universal Joint Grease
VO Vacuum Cylinder Oil
WB Wheel Bearing Grease

* For Twin-Traction differential, use Studebaker Twin-Traction Lubricant

STUDEBAKER V-8
Avanti

HOOD RELEASE: Inside

TUNE-UP DATA
See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1963, 1964 early	3EE	60
1964 late	24	53

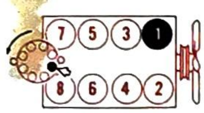
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
R1 Nonsupercharged 185-195
R2 Supercharged 160-170

SPARK PLUGS
Champion: Normal driving, J-12Y; high-speed driving, J-10Y
Gap: .030"
Torque: 30 ft. lb.

IGNITION POINTS
Prestolite
Gap: .019"
Dwell angle: Dual points, each set, 22°-26°; total dwell, 32°-36°

CONDENSER
Prestolite
Capacity: .21-.25 mfd

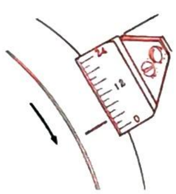
Cylinder Numbering Sequence



Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. R1: Set idle speed with transmission in NEUTRAL
   R2: Set engine speed to 1600 rpm with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): R1, 4° at idle rpm; R2, 24° at 1600 rpm (Each line equals 2°)

FUEL PUMP
Carter model: R1, M-3509S; R2, M-3508S
Pressure: 5½-7 lb. at 1000 rpm
Volume: 1 pint in 15 seconds at idle rpm

CARBURETOR ADJUSTMENT

CARTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
4-bbl. AFB	1	index	index

ENGINE IDLE SPEED
Manual Trans. 650 rpm
Auto. Trans. 650 rpm in NEUTRAL
Air Cond. 650 rpm in NEUTRAL with unit turned ON

VALVE CLEARANCES
(engine hot and running)
Intake .025"-.027"; exhaust .025"-.027"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
All models	18	17

Cooling system pressure, 13 pounds

0C Battery ....Test and fill

6 Power Steering Reservoir ....AF
Fill to level indicated on reservoir or cover

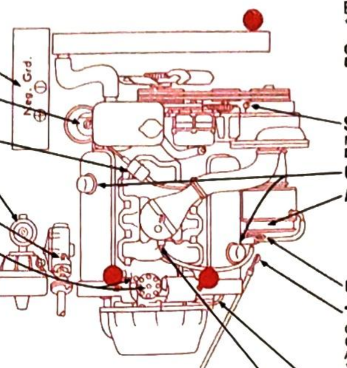
6 Fuel Filter ....Replace

0C Brake Master Cylinder (cover)...........HB
Fill to ½ inch below top of reservoir

6 Steering Gear (plug)...........80 or 90 GL

6 Distributor Shaft (oil cup)...............MO
To reach, remove center section of shielding

6 Wick under rotor..................MO



CRANKCASE ...."MS" MO
Above +80° 30 10W-30,20W-40
Above +32° 20 10W-30
Above 0° 10W 10W-30,10W-20
Below 0° 5W* 5W-20
* When using 5W, avoid sustained speeds above 60 mph
CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Supercharger ....AF **0C**
Maintain level between marks on dipstick.....
DRAIN and REFILL.......................... **12**

Oil Fill Caps...............Wash and oil MO **6**

Air Cleaner Element.......... .....Service
Dry type ....Clean **6M**
Dry type ....Replace **2Y**
Oil bath..................Wash and fill MO **0C**
Above +32°, 40 or 50; below +32°, 20

Crankcase Dipstick.............Check level

TRANSMISSION, Automatic ..AF **6**
Check level, engine idling, DRIVE position......

CAPACITY, quarts	Initial Refill	Total Refill
All models	3*	9

*Immediately after engine is started, add 4 quarts
DRAIN and REFILL.......................... **C**
Remove converter plug and fill tube

Oil Filter (under car) Replace, add extra quart oil
Before Serial No. R-4993 .... **4**
Serial No. R-4993 and after............ **6M**

PCV System Valve.................CC **6**
Remove and clean check valve. Under favorable conditions, every 12,000 miles

Front Suspension and Steering Linkage.....CL
Early, before Serial No. R-4993 (17 or 18 fittings)
Late, Serial No. R-4993 and after (11 or 13 fittings; 5 or 6 plugs)
★ Fittings
24 Plugs
Remove plug, insert fitting to lubricate, reinstall plug

★ Clutch Pedal Linkage.................MO

★ Clutch Release Shaft...................CL

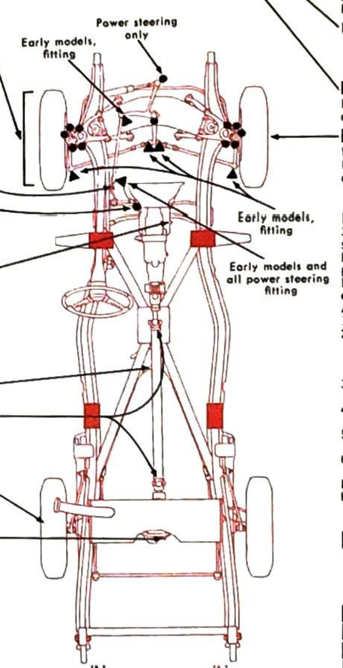
TRANSMISSION, Manual
6 Maintain level to fill plug hole
4-speed ....80 GL
CAPACITY 2½ pints
Others ....GL, MO
80GL or 30MO
CAPACITY 3¾ pints, with overdrive, 4 pints
DRAIN and REFILL Not recommended
Overdrive, drain and fill thru separate plug holes

6 Parking Brake Linkage..................MO

Universal Joints ....Repack UJ
Not recommended under normal service
30 Severe service only

24 Rear Wheel Bearings............Repack WB
Necessary to remove axle shafts

DIFFERENTIAL.........HP*, GL4*
Above 0°, 90; below 0°, 80
80 grade not recommended for year-round use
6 Maintain level to fill plug hole
CAPACITY 3 pints
C DRAIN and REFILL
To drain, remove cover plate
TWIN-TRACTION IDENTIFICATION:
Metal tag stamped with number "45" attached to housing



Front Wheel Bearings............Repack CL **12**
Under favorable conditions, every 24,000 miles
If conventional wheel bearing grease is used, reduce interval to 10,000 miles

BRAKE ADJUSTMENT
If the brake pedal can be depressed more than 3½", with the engine running, the need for service is indicated
Front brakes are disc-type, self-adjusting. Replace front linings when worn to ¼" thickness.
Rear brakes are drum-type with two adjusters on each backing plate
Adjust the rear brakes as follows:
1. Loosen adjusting screw lock nut slightly
2. Use two wrenches, one on lock nut and one on adjusting screw. With wrenches pointing upward, rotate wrenches outward, away from axle, until a drag is felt as wheel is turned
3. Back off adjusting screw until wheel turns freely without drag
4. Hold adjusting screw stationary and tighten lock nut
5. Repeat steps 1, 2, 3 and 4 on other adjusting screw
6. Repeat steps 1, 2, 3, 4 and 5 on other rear wheel

Bleeding sequence: RR, LR, RF, LF If equipped, bleed Hill-Holder first, then wheel cylinders

KEY TO INTERVALS
★ Every 1,000 miles (Before Serial No. R-4993)
Every 6,000 miles (Serial No. R-4993 and after)
4 Every 4,000 miles
6 Every 6,000 miles
6M Every 6 months or 6,000 miles
12 Every 12,000 miles
24 Every 24,000 miles
30 Every 30,000 miles
2Y Every 2 years or 24,000 miles
0C Every crankcase oil change
C Conditional service
Drain and refill differential only for below 0° requirements
Drain and refill automatic transmission only when used under severe service

GAS TANK ....Gallons
All models 21

TIRES..........Pressure	Front	Rear
6.70-15	24	20
All, sustained high speeds.........	30	30

4 Rotate tires, Method B, then balance wheels

LIFTING CAUTION—Do not lift this car by placing any kind of jack under the front or rear bumper

■ Position for lift adapter
▲ Prepacked bearing
● Lubrication fitting
● Cooling system drain

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CC Carburetor Cleaner
CL Chassis Lubricant
Studebaker Spec. No. MS-939
Serial No. R-4993 and after, if conventional chassis lubricant is used, reduce interval to 1,000 miles
GL Straight Mineral Gear Lubricant
GL4* Multipurpose-Type Gear Lubricant
API Service GL4
HB Hydraulic Brake Fluid, Heavy-Duty
SAE 70R3
HP* Hypoid Gear Lubricant
MO Motor Oil
UJ Universal Joint Grease
WB Wheel Bearing Grease
Studebaker Spec. No. MS-939 or Autolube-A
* For Twin-Traction differential, use Studebaker Twin-Traction Lubricant

STUDEBAKER 6

1964 All Models

HOOD RELEASE: Inside

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	53

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
All 140-160

SPARK PLUGS

Champion H-14Y
Gap: .033"-.038" (.035" preferred)
Torque: 25-30 ft. lb.

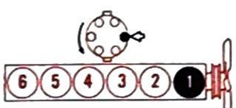
IGNITION POINTS

Prestolite
Gap: .017"-.022"
Dwell angle: 37°-41°

CONDENSER

Prestolite
Capacity: .21-.25 mfd

Cylinder Numbering Sequence



Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting

Timing Setting (Before Top Dead Center): 2°

FUEL PUMP

AC model 5594798
Pressure: 4-5½ lb. at 1800 rpm
Volume: Minimum 1 pint in 30 seconds at 4000 rpm

CARBURETOR ADJUSTMENT

CARTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
1-bbl. RBS	1	index	index

ENGINE IDLE SPEED

Manual Trans. 550-600 rpm
Auto. Trans. 575-590 rpm; in NEUTRAL
Air Cond. 590 rpm in NEUTRAL, unit turned ON

VALVE CLEARANCES

(engine hot and running)
Intake .023"-.025"; exhaust .023"-.025"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	12	11

Cooling system pressure, 14 pounds

[★] **Power Steering Reservoir** .... AF
Fill to level indicated on cover

[OC] **Battery** .... Test and fill

[★] **Distributor Shaft** (oil cup) .... MO

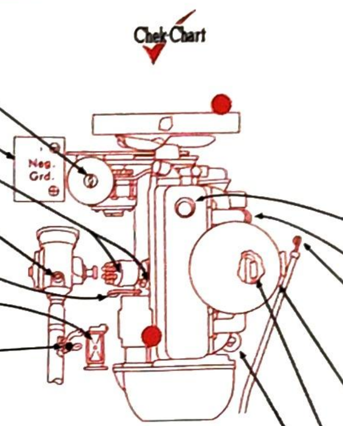
[★] Wick under rotor .... MO

[★] **Steering Gear** (plug) CL
For refill, use Studebaker Lubricant Part No. 50248

Crankcase Dipstick .... Check level

[OC] **Brake Master Cylinder** .... HB
Fill to ½ inch below top of reservoir

[★] **Gearshift Control Lever** CL



Front Suspension and Steering Linkage (11 or 13 fittings; 5 or 6 plugs) CL

[★] Fittings

[24] Plugs
Remove plug, insert fitting to lubricate, reinstall plug

[★] **Clutch Release Shaft** CL

[★] **Clutch Pedal Linkage** .... MO

TRANSMISSION, Manual .. GL, MO

80GL or 30MO

[★] Maintain level to fill plug hole
CAPACITY 2¼ pints; with overdrive, 3¼ pints
DRAIN and REFILL Not recommended
Overdrive, drain and fill thru separate plug holes

[★] **Parking Brake Linkage** .... MO

Universal Joints .... Repack UJ
Not recommended under normal service

[30] Severe service

[24] **Rear Wheel Bearings** .... Repack WB
Necessary to remove axle shafts

DIFFERENTIAL .... HP*, GL4*

Above 0°, 90; below 0°, 80
80 grade not recommended for year-round use

[★] Maintain level to fill plug hole
CAPACITY 2½ pints

[C] DRAIN and REFILL
To drain, remove cover plate
TWIN-TRACTION IDENTIFICATION:
Metal tag stamped with number "45" attached to housing

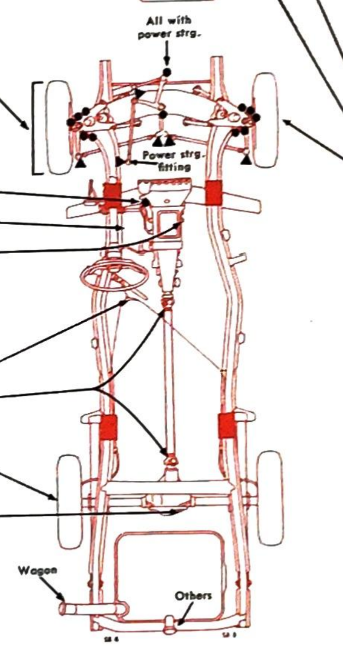
GAS TANK .... Gallons

All models 18

TIRES

	Pressure Front	Rear
6.00-15, 6.50-15	24	20
Fixed-roof station wagon	26	26
Sliding-roof station wagon	24	24
6.50-15 LifeGuard	24	24
6.70-15 LifeGuard	24	22
All, sustained high speeds	30	30

[★] Rotate tires, Method B, then balance wheels
LifeGuard tires, Method C



Position for lift adapter
▲ Prepacked bearing
● Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO

Above +80°	30	10W-30,20W-40
Above +32°	20	10W-30
Above 0°	10W	10W-30,10W-20
Below 0°	5W*	5W-20

* When using 5W, avoid sustained speeds above 60 mph

CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap .... Wash and oil MO [★]

Fuel Filter Element .... Replace [★]

TRANSMISSION, Automatic .. AF

Check level, engine idling, P or N position ...... [★]

CAPACITY, quarts	Initial Refill	Total Refill
All models	3*	9

* Immediately after engine is started, add 4 quarts
DRAIN and REFILL .... [C]
Remove fill tube

Air Cleaner Element .... Service
Dry type .... Clean [6]
Dry type .... Replace [2Y]
Oil bath .... Wash and fill MO [OC]
Above +32°, 40 or 50; below +32°, 20

PCV System Valve .... CC [6]
Remove and clean valve. Under favorable conditions, every 12,000 miles

Oil Filter (under car) .... Replace [6]
Add extra quart oil

Front Wheel Bearings .... Repack CL [12]
Under favorable conditions, every 24,000 miles. If conventional wheel bearing grease is used, reduce interval to 10,000 miles

BRAKE ADJUSTMENT

Brakes are self-adjusting. No adjustment normally required
Optional: Disc brakes on front, self-adjusting. Replace front linings when worn to ¼" thickness
Drum brakes on rear, adjust as follows:

1. Loosen adjusting screw lock nut slightly
2. Use two wrenches, one on lock nut and one on adjusting screw. With wrenches pointing upward, rotate wrenches outward, away from axle, until a drag is felt as wheel is turned
3. Back off adjusting screw until wheel turns freely without drag
4. Hold adjusting screw stationary and tighten lock nut
5. Repeat steps 1, 2, 3 and 4 on other adjusting screw
6. Repeat steps 1, 2, 3, 4 and 5 on other rear wheel

Bleeding sequence: RR, LR, RF, LF If equipped, bleed power brake first, then Hill-Holder, then wheel cylinders

KEY TO INTERVALS

[★] Every 6,000 miles
[6] Every 6 months or 6,000 miles
[12] Every 12,000 miles
[24] Every 24,000 miles
[30] Every 30,000 miles
[2Y] Every 2 years or 24,000 miles
[OC] Every crankcase oil change
[C] Conditional service
Drain and refill differential only for below 0° requirements
Drain and refill automatic transmission only when used under severe service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CC Carburetor Cleaner
CL Chassis Lubricant
Studebaker Spec. No. MS-939
If conventional chassis lubricant is used, reduce interval to 1,000 miles
GL Straight Mineral Gear Lubricant
GL4* Multipurpose-Type Gear Lubricant
API Service GL4
HB Hydraulic Brake Fluid, Heavy-Duty
SAE 70R3
HP* Hypoid Gear Lubricant
MO Motor Oil
UJ Universal Joint Grease
WB Wheel Bearing Grease
Studebaker Spec. No. MS-939 or ~~Autolube A~~

* For Twin-Traction differential, use Studebaker Twin-Traction Lubricant

STUDEBAKER V-8

1964 All Models Except Avanti

Challenger Commander — Cruiser Daytona — HOOD RELEASE: Inside — Hawk

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	53

COMPRESSION PRESSURE

(at cranking speed with throttle open)

	psi
Jet Thrust (JT)	185-195
Jet Thrust Supercharged (JTS)	160-170
Others	140-160

SPARK PLUGS

Champion: Jet Thrust, Supercharged, Normal driving, J-12Y; High-speed driving, J-10Y; Others, H-14Y
Gap: JT, JTS engines, .030"; Others, .033"-.038" (.035" preferred)
Torque: 30 ft. lb.

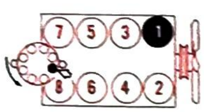
IGNITION POINTS

Prestolite
Gap: JT, JTS engines, .019"; Others, .014"-.019"
Dwell angle: JT, JTS engines, each set of dual points, 22°-26°, total dwell, 32°-36°; Others, 27°-31°

CONDENSER

Prestolite
Capacity: .21-.25 mfd

Cylinder Numbering Sequence



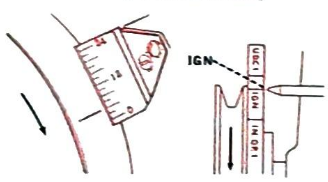
Firing Order: 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed* with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

* JTS, 1600 rpm

Timing Mark and Setting



Jet Thrust
Jet Thrust Supercharged — Others

Timing Setting (Before Top Dead Center):
Jet Thrust, 4° at idle rpm
Jet Thrust Supercharged, 24° at 1600 rpm
(Each line equals 2°)
Others, 4° at idle rpm

FUEL PUMP

Carter model: JT, M-3509S; JTS, M-3508S; Others, 3155SA
Pressure: JT, JTS, 5½-7 lb. at 1000 rpm; Others, 4-5½ lb. at 1800 rpm
Volume: Minimum 1 pint; JT, JTS in 15 seconds at idle rpm; Others in 30 seconds at 4000 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER 4-bbl. AFB	1	index	index
STROMBERG 2-bbl. WW	1¼	index	index

ENGINE IDLE SPEED

Manual Trans.: JT, JTS, 650 rpm; Others, 550-575 rpm
Auto. Trans. in NEUTRAL: JT, JTS, 650 rpm; Others, 550 rpm
Air Cond. in NEUTRAL with unit turned ON: JT, JTS, 650 rpm. Others, 550 rpm

VALVE CLEARANCES

(engine hot and running)
JT, JTS engines: Intake .025"-.027"; exhaust .025"-.027"; Others: Intake .023"-.025"; exhaust .023"-.025"

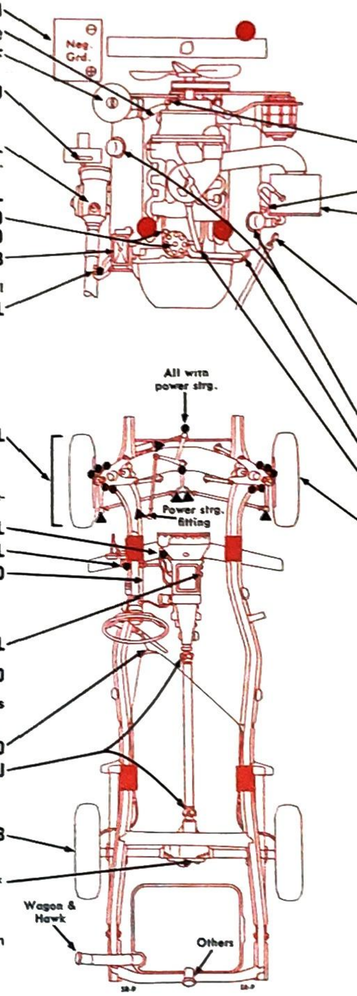
SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	18	17

Cooling system pressure, 14 pounds

- [OC] **Battery** At rear on Hawk .... Test and fill
- [★] **Fuel Filter Element** .... Replace
- [★] **Power Steering Reservoir** .... AF
  Fill to level indicated on reservoir or cover
- [24] **Power Brake Vacuum Cylinder** (plug) 1 oz. .. VO
  On Hawk only
- **Steering Gear** (plug)
  - [★] All except Hawk CL
    For refill, use Studebaker Lubricant Part No. 50248
  - [★] Hawk .... 80 or 90 GL
- [★] **Distributor Shaft** (oil cup) .... MO
- [★] Wick under rotor .... MO
- [OC] **Brake Master Cylinder** .... HB
  Fill to ½ inch below top of reservoir
  Hawk without disc brakes, under floor, rear of pedal
- [★] **Gearshift Control Lever** CL



Front Suspension and Steering Linkage (11 or 13 fittings; 5 or 6 plugs) CL
- [★] Fittings
- [24] Plugs
  Remove plug, insert fitting to lubricate, re-install plug

- [★] **Clutch Release Shaft** CL
- [★] **Pedal Shaft** Hawk only CL
- [★] **Clutch Pedal Linkage** .... MO

TRANSMISSION, Manual

[★] Maintain level to fill plug hole
- 4-speed .... 80 GL
  CAPACITY 2½ pints
- Others .... GL, MO
  80GL or 30MO
  CAPACITY 3¾ pints; with overdrive, 4 pints

DRAIN and REFILL Not recommended
Overdrive, drain and refill thru separate plug holes

- [★] **Parking Brake Linkage** .... MO
- **Universal Joints** .... Repack UJ
  Not recommended under normal service
  [30] Severe service
- [24] **Rear Wheel Bearings** .... Repack WB
  Necessary to remove axle shafts

DIFFERENTIAL .... HP*, GL4*

Above 0°, 90; below 0°, 80
80 grade not recommended for year-round use
[★] Maintain level to fill plug hole
CAPACITY 2½ pints, except Hawk and all station wagons, 3 pints
[C] DRAIN and REFILL
To drain, remove cover plate
TWIN-TRACTION IDENTIFICATION:
Metal tag stamped with number "45" attached to housing

GAS TANK .... Gallons

All models 18

TIRES

Pressure	Front	Rear
6.50-15, 6.70-15	24	20
Station wagon	24	24
6.70-15 LifeGuard, station wagon	24	22
All, sustained high speeds	30	30
All, 4 or more passengers	26	26

[★] Rotate tires, Method B, then balance wheels
LifeGuard tires, Method C

Position for lift adapter
▲ Prepacked bearing
• Lubrication fitting
● Cooling system drain

CRANKCASE .... "MS" MO

Above +80°	30	10W-30, 20W-40
Above +32°	20	10W-30
Above 0°	10W	10W-30, 10W-20
Below 0°	5W*	5W-20

* When using 5W, avoid sustained speeds above 60 mph
CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

- **Supercharger** .... AF
  Maintain level between marks on dipstick .... [OC]
  DRAIN and REFILL .... [12]
- **Crankcase Dipstick** .... Check level
- **Air Cleaner Element** .... Service
  - Dry type .... Clean [6]
  - Dry type .... Replace [2Y]
  - Oil bath .... Wash and fill MO [OC]
    Above +32°, 40 or 50; below +32°, 20

TRANSMISSION, Automatic .. AF

Check level, engine idling, DRIVE position .... [★]

CAPACITY, quarts	Initial Refill	Total Refill
All models	3*	9

* Immediately after engine is started, add 4 quarts
DRAIN and REFILL .... [C]
Remove fill tube

- **Oil Fill Caps** .... Wash and oil MO [★]
- **Oil Filter** (under car) Replace, add extra quart oil [6]
- **PCV System Valve** .... CC [★]
  Remove and clean valve. Under favorable conditions, every 12,000 miles
- **Front Wheel Bearings** .... Repack CL [12]
  Under favorable conditions, every 24,000 miles. If conventional wheel bearing grease is used, reduce interval to 10,000 miles

BRAKE ADJUSTMENT

Brakes are self-adjusting. No adjustment normally required
Optional: Disc brakes on front, self-adjusting. Replace front linings when worn to ⅛" thickness
Drum brakes on rear, adjust as follows:

1. Loosen adjusting screw nut slightly
2. Use two wrenches, one on lock nut and one on adjusting screw. With wrenches pointing upward, rotate wrenches outward, away from axle, until a drag is felt as wheel is turned
3. Back off adjusting screw until wheel turns freely without drag
4. Hold adjusting screw stationary and tighten lock nut
5. Repeat steps 1, 2, 3 and 4 on other adjusting screw
6. Repeat steps 1, 2, 3, 4 and 5 on other rear wheel

Bleeding sequence: RR, LR, RF, LF If equipped, bleed power brake first, then Hill-Holder, then wheel cylinders

KEY TO INTERVALS

- [★] Every 6,000 miles
- [6] Every 6 months or 6,000 miles
- [12] Every 12,000 miles
- [24] Every 24,000 miles
- [30] Every 30,000 miles
- [2Y] Every 2 years or 24,000 miles
- [OC] Every crankcase oil change
- [C] Conditional service
  Drain and refill differential only for below 0° requirements
  Drain and refill automatic transmission only when used under severe service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A, Suffix A
- **CC** Carburetor Cleaner
- **CL** Chassis Lubricant
  Studebaker Spec. No. MS-939
  If conventional chassis lubricant is used, reduce interval to 1,000 miles
- **GL** Straight Mineral Gear Lubricant
- **GL4*** Multipurpose-Type Gear Lubricant
  API Service GL4
- **HB** Hydraulic Brake Fluid, Heavy-Duty
  SAE 70R3
- **HP*** Hypoid Gear Lubricant
- **MO** Motor Oil
- **UJ** Universal Joint Grease
- **VO** Vacuum Cylinder Oil
- **WB** Wheel Bearing Grease
  Studebaker Spec. No. MS-939 or Autolube-A

* For Twin-Traction differential, use Studebaker Twin-Traction Lubricant

AUSTIN HEALEY

1952-64 100, 100 Six, 3000 Series Mark I, II

HOOD RELEASE: Inside

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
4-cylinder	18LF (2) (6-volt)	57
6-cylinder: 2-seater	18LF (2) (6-volt)	57
4-seater	29H	57

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
4-cyl. engine 125
100 Six engine.......................145-155
100 Six, 6 port head..................150-160
3000 engine 155-165

SPARK PLUGS

Champion N-5 (UN-12Y may be used); high-speed driving, N-3
Gap: .025"
Torque: 25 ft. lb.

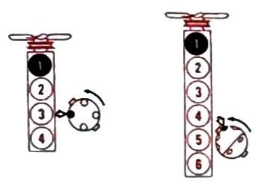
IGNITION POINTS

Lucas
Gap: .014"-.016"
Dwell angle: 4-cyl. 57°-63° (60° preferred)
6-cyl. 33°-37° (35° preferred)

CONDENSER

Lucas
Capacity: .18-.25 mfd

Cylinder Numbering Sequence

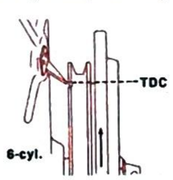


Firing Order:
4-cyl. 1, 3, 4, 2
6-cyl. 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Connect 12-volt test lamp to distributor primary terminal and to ground
2. Centralize the distributor vernier scale
3. On 6-cylinder engines align notch in pulley with pointer. This represents 0° BTDC. On 4-cylinder engines it will be necessary to determine 0° TDC of No. 1 piston by the use of a dial indicator or other suitable means
4. Turn distributor housing until points just open, as indicated by test lamp
5. Turn vernier knob to advance timing to recommended setting. Each mark on vernier equals two degrees on crankshaft
6. Road test car and make final adjustments to obtain maximum engine performance without ping

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 4-cyl., 100 Six, 6°; 3000 Mark I, 5°; 3000 Mark II, 12°

FUEL PUMP

S.U. electric: 4-cyl. and 100 Six (4 port head BN 4) type HP; 100 Six (6 port head BN 6) and 3000, type LCS
Volume: 31 ounces per minute

CARBURETOR ADJUSTMENT

S.U.	Idle Mixture (initial turns)
4-cyl.; 100 Six (4 port) Twin 1-bbl. H-4	1
100 Six (6 port); 3000 Mark I Twin 1-bbl. HD-6	2¼
3000 Mark II Twin or Triple 1-bbl. HS-4	2
Mark II convertible Twin 1-bbl.	HS-62

ENGINE IDLE SPEED

4-cyl. 650-700 rpm; 6-cyl. 450-650 rpm

VALVE CLEARANCES

(engine hot, not running)
Intake .012"; exhaust .012"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
100	12½	...
100 Six, 3000 series	12	11½

Cooling system pressure: 6-cyl., 7 pounds; 4-cyl., 4 pounds

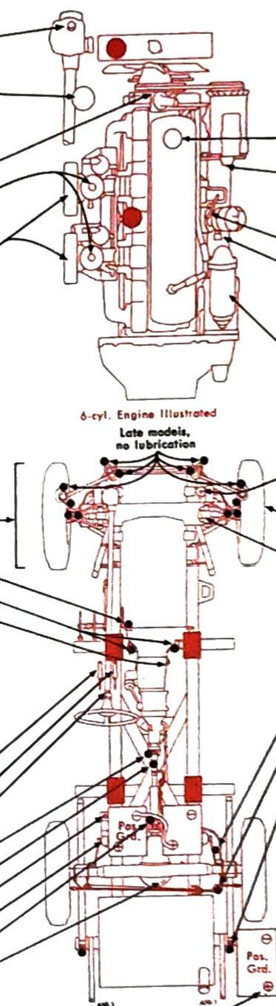
★ **Steering Gear** (plug).....................MP
Above +10°, 90; below +10°, 80
4-cyl., remove wheel to service

★ **Brake and Clutch Reservoir** (cap)..........HB
Fill to ½ inch from top of reservoir
4-cyl. and early 6-cyl., reservoir rear of carburetors. Some 6-cyl., reservoir adjacent to rear carburetor. 4-cyl., do not have hydraulically-operated clutch

[12] **Water Pump** (plug) ....Sparingly 140 MP

★ **Carburetor Dashpots** ....MO
Unscrew caps, maintain level at ½ inch below top of inner hollow shaft
3 dashpots on some 3000 Series Mark II

Air Cleaner Elements...............Service
[3] Wire gauze.............Wash and oil MO
3 filters on some 3000 series Mark II



★ **Front Suspension and Steering Linkage**......(6 or 12 fittings) CL

★ **Brake and Clutch Pedal Pivots 4-cyl.**........CL
[12] **Clutch Operating Shaft 4-cyl.**......Sparingly CL

TRANSMISSION ....30 MO
Reach dipstick and fill plug thru floor
★ Maintain level to mark on dipstick
CAPACITY Mark II convertible, 6⅞ pints; with overdrive, 8⅝ pints
All others, 6 pints; with overdrive, 7½ pints except 1953-54 100 series with aluminum housing, 6⅝ pints
[6] DRAIN and REFILL
Overdrive, drain thru separate plug hole. Fill thru transmission

[12] **Speedometer Cable** ....Coat CL
[12] **Tachometer Cable** ....Coat CL
★ **Steering Column** (oil hole).......Sparingly MO
Adjustable steering column, no lubrication
★ **Universal Joint** CL
★ **Universal Joint Spline**.................CL
[6] **Fuel Pump Screen**....................Clean
[6] **Shock Absorbers** ....Refill SA
★ **Universal Joint** CL

DIFFERENTIAL ....MP
Above +10°, 90; below +10°, 80
★ Maintain level to fill plug hole
CAPACITY 3⅜ pints, except 100 1953-55 spiral bevel, 2¾ pints
[6] DRAIN and REFILL

★ **Battery**.....................Test and fill
2-seaters, 2 6-volt batteries under lid behind seat

GAS TANK ....Gallons
100 .... 14½
100 Six, 3000 series.................. 14⅜

TIRES..........Pressure	Front	Rear
5.90-15 Mark II convertible........	20	25
Sustained high speeds over 110mph	25	30
5.90-15 All others..............	20	23*
Sustained high speeds over 90 mph	26	29

* Full load, 26

[3] Rotate tires, Method H, then balance wheels

CRANKCASE...............“MS” MO

Above +32°..............	30	20W-30
Above +10°..............	20,20W	20W-30
Below +10°..............	10W	...

CAPACITY 100, 7¼ quarts; all other models, 7 quarts

DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap
4-cyl., rear of valve cover

Generator
Oil hole ....Sparingly MO [12]
Lubricator cap ....WB [6]
Remove spring, felt pad and fill cap ½ full

Crankcase Dipstick.... ....Check level

Distributor Shaft (grease cup).............WB [6]
Screw cup 1 turn; early 6-cyl. only
Cam bearing (under rotor)....Sparingly MO [6]
Advance mechanism ....MO [6]
Apply sparingly thru hole around cam

Oil Filter ....Replace [6]
4-cyl., forward, at center
Add extra 1½ pints oil

Steering Idler (plug) (under hood)..........MP ★
Above +10°, 90; below +10°, 80
4-cyl., remove wheel to service

Front Wheel Bearings............Repack WB [6]

Shock Absorbers ....Refill SA [6]

Hand Brake Cable.......................CL ★
Hand Brake Balance Lever................CL ★
Spring Shackles ....CL ★

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated
Two hex head adjusters are provided on each front backing plate. A single square headed adjuster is provided on each rear backing plate
Adjust the brakes as follows:
4-cyl., 100 Six
Front brakes
1. Turn each adjuster until a slight drag is felt when revolving drum
2. Back off each adjuster until drum just turns freely without drag

Rear brakes
3. Turn adjuster until a slight drag is felt when revolving drum
4. Back off adjuster 2 clicks. Drum must turn freely without drag

3000
Self-adjusting disc brakes are used on front. Rear brakes are drum type and are adjusted as shown above
Bleeding sequence: RR, LR, RF, LF

Position for lift adapter
Lubrication fitting
Cooling system drain

KEY TO INTERVALS

★ Every 1,000 miles
[3] Every 3,000 miles
[6] Every 6,000 miles
[12] Every 12,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CL Chassis Lubricant	MO Motor Oil	SA Shock Absorber Fluid, Light
HB Hydraulic Brake Fluid, Heavy-Duty	MP Multi-Purpose Gear Lubricant	WB Wheel Bearing Grease

AUSTIN HEALEY
1958-64 Sprite Mark I, II
M.G. MIDGET
1961-64 All Models

HOOD RELEASE: Sprite Mark I, front; others, inside

TUNE-UP DATA

See Service Instructions for Procedure

(Following data does not include modified stage turned engines)

BATTERY

	AABM Group No.	Amp. Hrs.
All	Special	43

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
All 140-160

SPARK PLUGS

Champion: Normal, N-5; high-speed or competition driving, N-3
Gap: .024"-.026"
Torque: 30 ft. lb.

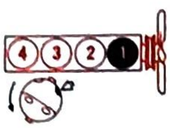
IGNITION POINTS

Lucas
Gap: .014"-.016"
Dwell angle: 57°-63° (60° preferred)

CONDENSER

Lucas
Capacity: .18-.25 mfd

Cylinder Numbering Sequence



Firing Order: 1, 3, 4, 2

TIMING PROCEDURE

1. Position distributor vernier at center of scale
2. Connect 12-volt test lamp to distributor primary terminal and to ground
3. Turn crankshaft pulley until notch is aligned with recommended degree pointer on timing gear cover
4. Loosen distributor clamp bolt and turn distributor housing until breaker points just open, as indicated by test lamp
5. Tighten distributor clamp bolt
6. Make final precise adjustment with vernier knob and test lamp

Timing Mark and Setting

Timing Setting (Before Top Dead Center):
Premium fuel, 96 octane minimum, is recommended. Spark knock must not be tolerated
Mark I, 5°; Mark II and Midget (with 948cc eng.) 4°; (with 1100cc eng.) 5°

FUEL PUMP

AC type Y
Pressure: 1½-2½ lb. at idle rpm
Volume: Approx. 13 ounces per minute at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
S.U.	
Twin 1-bbl. H-1	1
Twin 1-bbl. HS-2	2

ENGINE IDLE SPEED

650-750 rpm

VALVE CLEARANCES

(engine cold, not running)
Intake .013"; exhaust .013"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
All models	6½	6

Cooling system pressure, 7 pounds

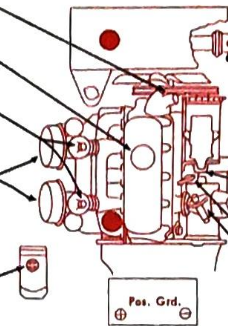
[6] **Water Pump** (plug) ....Sparingly 140 MP

Oil Fill Cap ....

[★] **Carburetor Dashpots** ....20 MO
Unscrew caps, maintain level at ½ inch below top of inner hollow shaft

Air Cleaner Elements ....Service
[12] Dry type ....Replace
[3] Wire gauze............Wash and oil MO

[★] **Brake and Clutch Reservoir** (cap)..........HB
Fill to ½ inch below top of fill hole



CRANKCASE ...."MS" MO

Above +32°	30	20W-30
Above +10°	20,20W	20W-30
Below +10°	10W	...

CAPACITY (including oil filter) 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Steering Gear ....MP [12]
Above +10°, 90; below +10°, 80
Use low pressure. Check rubber boots for leaks
Do not disturb hex plugs on steering rack tube
Models with 1100cc engine, no fitting. If leaks are observed, loosen right side boot and inject not more than ½ pint lubricant

Generator
Lubricator cap ....WB [12]
Oil hole ....MO [12]

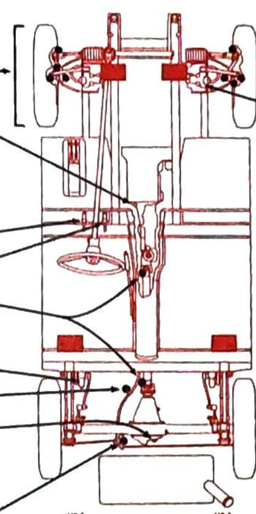
Oil Filter (under car)...............Replace [6]

Crankcase Dipstick...............Check level

Distributor
Cam bearing (under rotor)....Sparingly MO [6]
Advance mechanism ....MO [6]
Lubricate sparingly thru hole around cam

Battery.......................Test and fill [★]

[★] **Front Suspension and Steering Linkage**..........(8 fittings) CL



TRANSMISSION ....30 MO

Reach fill and level plug thru opening at left side under floor mat
[★] Maintain level to fill plug hole
CAPACITY 2¾ pints
[6] DRAIN and REFILL

[12] **Tachometer Cable**..................Coat CL

[12] **Speedometer Cable**................Coat CL

[★] **Universal Joints**..........................CL
To reach front joint fitting, lift floor mat and remove rubber plug on left side of tunnel

[6] **Rear Shock Absorbers**...............Fill SA

[★] **Hand Brake Cable**..........................CL

DIFFERENTIAL ....MP

Above +10°, 90; below +10°, 80
[★] Maintain level to fill plug hole
CAPACITY 1¾ pints
[6] DRAIN and REFILL

[★] **Hand Brake Balance Lever**...............CL

Front Wheel Bearings..................WB [6]
Remove dust cap and fill. Do not remove hub

Front Shock Absorbers..............Fill SA [6]

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated
Front brakes have two adjusters. Rear brakes have a single adjuster which operates both shoes
Adjust the brakes as follows:
1. Raise car, remove hub caps, remove plugs from adjustment holes in brake drums
2. Turn wheel until hole lines up with slotted head adjuster
3. Turn adjuster until drum is locked
4. Back off adjuster until drum just turns freely without drag
5. Repeat steps 2, 3 and 4 for second adjuster
6. Repeat procedure at each wheel

Models with 1100cc engine
Self-adjusting disc brakes are used on front. Rear brakes are drum type and are adjusted by following above procedure
Bleeding sequence: RR, LR, RF, LF

GAS TANK ....Gallons

All models 7¼

TIRES ....Pressure Front Rear

5.20-13 .... 18 20

[3] Rotate tires, Method A or G, then balance wheels

Position for lift adapter
Lubrication fitting
Cooling system drain

KEY TO INTERVALS

[★] Every 1,000 miles
[3] Every 3,000 miles
[6] Every 6,000 miles
[12] Every 12,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **CL** Chassis Lubricant
- **HB** Hydraulic Brake Fluid, Heavy-Duty
- **MO** Motor Oil
- **MP** Multi-Purpose Gear Lubricant
- **SA** Shock Absorber Fluid, Light
- **WB** Wheel Bearing Grease

HOOD RELEASE: Inside

FIAT

1957-61 1100, 1100 DeLuxe, 1200 Sedan; 1958-63 1200 Spider; 1962-64 1100D, 1100 Export, 1100 Special; 1964 1500 Spider

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1957-61 Model 1100	22NL	38
Model 1200	Special	40
1962-64	24	53

COMPRESSION PRESSURE

(psi at cranking speed, throttle open)	min.	max.
All	120	150

SPARK PLUGS

Champion: 1500, N-9Y; Others, L-7
Gap: 1500, .020"-.024"; Others, .024"
Torque: 1500, 18-20 ft. lb.; Others, 15 ft. lb.

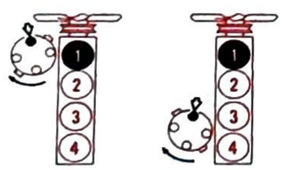
IGNITION POINTS

Marelli
Gap: .016"-.019" (.017" preferred)

CONDENSER

Marelli
Capacity: 1500, .20-.25 mfd; Others, .15-.20 mfd

Cylinder Numbering Sequence



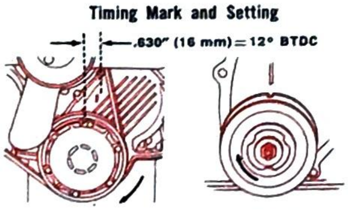
Firing Order: 1, 3, 4, 2

TIMING PROCEDURE

1. Connect 12-volt test lamp to distributor primary terminal and to ground
2. Turn pulley until notch is aligned with marker. This represents 0° BTDC*
3. Turn distributor housing until points just open as indicated by test lamp

* 1500, set mark on pulley .630" (12°) before raised mark on engine cover

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
1500, 12°; Others, 0° BTDC
(Select suitable setting based on fuel used)

FUEL PUMP

Weber mechanical
Pressure: Approx. 3-4 lb. at idle rpm
Volume: Not required. Check pressure only

CARBURETOR ADJUSTMENT

WEBER		Idle Mixture (initial turns)
1-bbl.	32 IM	1½-2½
2-bbl.	36 DIM 7	1-2
2-bbl.	36 DCD	1-2
2-bbl.	28-36 DCD19	2½

Note: For proper fuel enrichment device operation, the carburetor climatic control should be in position "E" for summer and position "I" for winter. Align letter with index mark on carburetor cover or air cleaner

ENGINE IDLE SPEED

800-850 rpm.

VALVE CLEARANCES

(engine cold, not running)
1500: Intake .008"; exhaust .008"
Others: Intake .004"; exhaust .004"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM .... Quarts

	With Heater
1500	6.3
Others	5.3

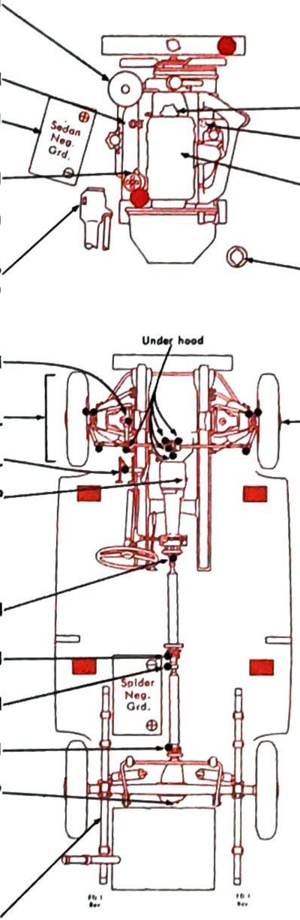
Oil Filter .... Replace, add extra pint oil
1500, at left center
[6] 1100D, 1500 [3] Others

Crankcase Dipstick .... Check level

[★] **Battery** .... Test and fill

Distributor Shaft
All except 1500 (grease cup) .... LM
[6] 1100D [3] Others
[6] 1500 (oil cup) .... MO
Located at left front

[★] **Steering Gear** (plug) .... 90 EP
1100 Special, all 1200 and 1500 models, plug on right side of housing



[★] **Steering Gear Shaft** (under hood) .... LM

[★] **Front Suspension and Steering Linkage** .... (11 fittings) CL

[★] **Clutch Pedal** CL

TRANSMISSION .... 90 GL, EP

Maintain level to fill plug hole
[6] 1100D, 1500 [3] Others
CAPACITY 2⅜ pints
DRAIN and REFILL
[18] 1100D, 1500 [12] Others

[★] **Universal Joint Spline** .... LM
1100 series only

[3] **Universal Joint** .... LM
1200 series only

[3] **Universal Joint Spline** .... LM
1200 series only

[★] **Universal Joint** .... LM

DIFFERENTIAL .... 90 EP

Maintain level to fill plug hole
[6] 1100D, 1500 [3] Others
CAPACITY 1500, 1.9 pints; others, 1¼ pints
DRAIN and REFILL
[18] 1100D, 1500 [12] Others

[6] **Rear Springs** .... GG
Apply between leaves

GAS TANK .... Gallons

All models 10

TIRES .... Pressure

	Front	Rear
5.20-14, 1100 series	21½	24
1200 series	24	27
5.60-14, station wagon	18	27
145-14, model 1500	23	24

[6] Rotate tires, Method J, then balance wheels

CRANKCASE .... "MS" MO

"MM" may be used under favorable conditions

Above +90°	40	20W-40
Above +32°	30	10W-30
Above +10°	20	10W-30
Below +10°	10W	10W-30

CAPACITY 1500, 3¾ quarts; others, 3⅛ quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap

Generator .... MO [12]
Some models, no lubrication

Air Cleaner Element .... Service
Dry type .... Clean [3]
Dry type .... Replace [6]

Brake Fluid Reservoir (plug) .... HB [3]
1200 Spider and 1500, left side
Fill to level mark on reservoir

Front Wheel Bearings .... Repack LM
1100D, 1962-63 1200 Spider, 1500 .... [12]
Others .... [6]

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated

Adjust the brakes as follows:

1957-59

Two adjusting nuts are provided at the top portion of each backing plate

1. Turn each adjuster until drum cannot be turned by hand
2. Back off each adjuster until drum just turns freely without drag
3. Repeat procedure at each wheel

1960-64: 1100, 1200 series

1. Depress pedal and hold "ON" firmly
2. Turn each adjuster until cams contact shoes
3. Back off each adjuster 20°
4. Release pedal and check to see that drum can rotate freely without drag

1964: Model 1500 rear drums

1. Proceed as shown above but back off adjusters until .004"-.006" drum to shoe clearance is obtained
2. Measure clearance with feeler gage inserted into slot in drum

1964: Model 1500 disc brakes
Brakes are self-adjusting. No adjustment normally required. Replace pads when worn to .120" thickness

Bleeding sequence: RR, LR, RF, LF

Position for lift adapter
Lubrication fitting
Cooling system drain

KEY TO INTERVALS

[★] Every 1,500 miles
[3] Every 3,000 miles
[6] Every 6,000 miles
[12] Every 12,000 miles
[18] Every 18,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CL Chassis Lubricant
EP Extreme Pressure Gear Lubricant
GG Graphite Grease
GL Straight Mineral Gear Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
LM Lithium Grease
MO Motor Oil

FORD BRITISH-BUILT

1960-64 Anglia
1962-63 Consul 315
1962-64 Consul Capri
1963-64 Consul Cortina

HOOD RELEASE: Consul Cortina, outside; all others, inside

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
Anglia	29NF*	51
Consuls	29NF*	51

* Special lug-type terminals

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi

1963-64 Consuls 175
Others 160

SPARK PLUGS

Autolite AG3; Champion N-5
Gap: .023"-.028"
Torque: 25 ft. lb.

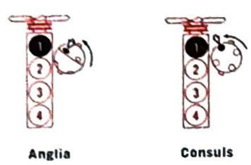
IGNITION POINTS

Enfo
Gap: .014"-.016"
Dwell angle: 58°-62°

CONDENSER

Enfo
Capacity: .18-.22 mfd

Cylinder Numbering Sequence

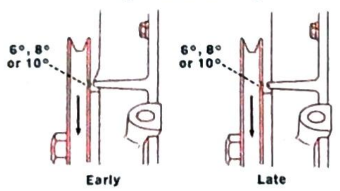


Firing Order: 1, 2, 4, 3

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Set distributor octane scale to 0°
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain alignment of notch in pulley with mark on timing gear cover. This setting equals specified timing advance
7. Reset to proper idle speed
8. Additional performance may be obtained by altering timing setting to obtain maximum acceleration from 20 to 40 mph, in 4th gear, using full throttle

Timing Mark and Setting



Timing Setting (Before Top Dead Center): Anglia, 10°; Consul Cortina 1500, 8°; all others, 6° (Align notch with pointer)

FUEL PUMP

AC mechanical
Pressure: 1¼-2 lb. while accelerating engine briefly
Volume: Approx. 1 pint in 1 minute at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
SOLEX 1-bbl.	1½
ZENITH 1-bbl.	½-1½

ENGINE IDLE SPEED

500-550 rpm

VALVE CLEARANCES

(engine cold)
1963-64 Consul Cortina 1500: Intake .012"; exhaust .022". All others: Intake .008"; exhaust .018"

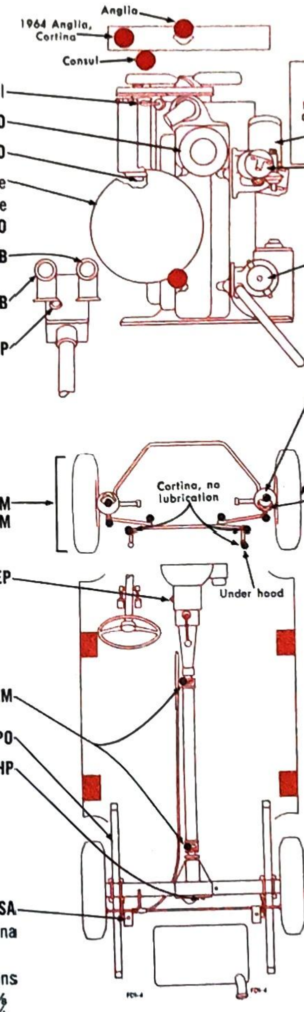
SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
Anglia	7⅛	6⅛
Consul 315	7	6½
Consul Capri	7	6½
Consul Cortina 1200	6¼	5½
Consul Cortina 1500	7¾	6¾

Cooling system pressure, 7 pounds

Chek-Chart



Crankcase Dipstick .... Check level

[5] **Oil Fill Cap** .... Wash and oil MO

[5] **Generator** (oil hole) .... MO

Air Cleaner Element .... Service
[15] Dry type .... Replace
[5] Oil bath .... Wash and fill MO

★ **Brake Fluid Reservoir** (cap) .... HB
Fill to level mark on reservoir

★ **Clutch Fluid Reservoir** (cap) .... HB
Fill to level mark on reservoir

★ **Steering Gear** (rubber plug) .... 90 EP

★ **Front Suspension and Steering Linkage**
Except Consul Cortina ..... (9 fittings) LM
Consul Cortina .... (6 fittings) LM

TRANSMISSION .... 80 EP

★ Maintain level to fill plug hole
CAPACITY 2⅛ pints
DRAIN and REFILL
[5] 1960-62 Anglia [15] 1962 Consuls
1963-64 Not recommended

★ **Universal Joints** .... LM
Some 1964 Anglia, no lubrication

[5] **Rear Springs** .... Coat PO

DIFFERENTIAL .... HP

Above -10°, 90; below -10°, 80
★ Maintain level to fill plug hole
CAPACITY 2⅜ pints
DRAIN and REFILL
[5] 1960-62 Anglia [15] 1962 Consuls
1963-64 Not recommended

Rear Shock Absorbers .... Fill SA
[5] Anglia [15] Consuls, except Cortina
Cortina, no service

GAS TANK .... Gallons

Anglia	8⅜
Consuls except Cortina	10¾
Cortina	9½

TIRES .... Pressure

	Front	Rear
5.20-13, Anglia, Consul Cortina 1500	22	22
5.60-13, Anglia station wagon	24	30
5.20-13, Consul Cortina 1200	24	24
5.60-13, 5.90-13, all other Consuls	22	24

Pressures may be increased according to load

[5] Rotate tires, Method A, then balance wheels

Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO

Above +32° 20,20W
Above -10° 10W
Below -10° 5W
CAPACITY 2⅜ quarts except Consul Cortina 1500, 3¾ quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill ★

Oil Filter .... Replace [5]
Add extra ⅜ quart oil

Distributor
Cam bearing (under rotor) .... Sparingly MO ★
Advance mechanism .... MO ★
Lubricate sparingly thru opening around cam

Fuel Pump Sediment Bowl and Screen .... Clean [5]

Front Suspension Thrust Bearings .. Repack LM [5]
1960-62 only. Pry off plastic cap to repack

Front Wheel Bearings .... Repack LM
Anglia, Consul Cortina, initial torque, 30 ft. lb.; final adjustment, loosen nut 2-2½ castellations
Consuls, except Cortina, initial torque, 14-17 ft. lb.; slacken adjusting nut 2½-3 castellations
Wheel must turn freely with only slight end play permitted
Anglia .... [5]
Consuls .... [15]

Front Suspension Units (plugs) .... AF
Check level with car unloaded
Remove plugs; located forward on left unit
Fill to bottom of plug hole
Anglia .... [5]
Consuls .... [15]

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated
Consuls, except Cortina, use self-adjusting disc brakes on front. No adjustments required. Replace pads when worn to 1/16-1/8-inch thickness
All Consul rear brakes have a single square head adjuster on each backing plate
Anglia uses two square head adjusters on each front and rear backing plate
Adjust the brakes as follows:

Anglia and Cortina front brakes
1. Turn adjuster until shoe just contacts drum
2. Back off adjuster until shoe just clears drum and no drag is felt when turning drum
3. Repeat steps 1 and 2 at other adjuster
4. Repeat steps 1, 2 and 3 at other front wheel

Anglia rear brakes
5. Turn forward adjuster until drum cannot be turned by hand
6. Turn rearward adjuster until light contact is made with shoe
7. Back off forward adjuster, about 2 clicks, until drum just turns freely without drag
8. Repeat steps 5, 6 and 7 at other rear wheel

All Consul rear brakes
1. Turn the adjuster until drum cannot be turned by hand
2. Back off adjuster until drum just turns freely, without drag
3. Repeat procedure for other rear brake

Bleeding sequence: RF, LF, RR, LR

KEY TO INTERVALS

★ Every 1,000 miles
Consul Cortina: Every 5,000 miles
[5] Every 5,000 miles or twice yearly
[15] Every 15,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
EP Mild Extreme Pressure Gear Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
HP Hypoid Gear Lubricant
Ford Specs. No. M2C28-B, 90; M2C28-A, 80
LM Lithium Grease
Consul Cortina: Ford Specification No. M-1C47. If Ford Specification No. M-1C47 is not available lubricate every 1,000 miles
MO Motor Oil
PO Penetrating Oil
SA Shock Absorber Fluid, Light

HILLMAN

1957-62 Minx Series I, II, III, III-A, -B, -C (1600)
1957-64 Husky Series I, II, III
1962-64 Super Minx Mark I, II; Minx Series V

HOOD RELEASE: Minx series III, III-A, -B, Super Minx, inside; all others, front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1957-58 early	Special	43
1958 late, 1959-64	29H	58

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi

Minx Series I, II; Husky I, II 150-155
Minx Series III, III-A, -B, -C, V; Super Minx; Husky Series III 170-180

SPARK PLUGS

Champion: Super Minx, Minx Series III-A, -B, -C and late Husky Series II, N-5; others, N-8
Gap: Series III-A, -B, -C, V, Super Minx and late Husky Series II, III, .025″; others, .028″-.032″
Torque: 25 ft. lb.

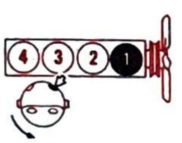
IGNITION POINTS

Lucas
Gap: Super Minx, Minx Series III-C, V, Husky Series III, .015″; others, .016″
Dwell angle: 57°-63°

CONDENSER

Lucas
Capacity: .2 mfd

Cylinder Numbering Sequence

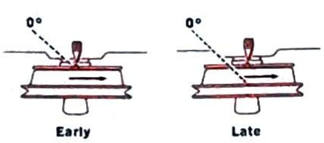


Firing Order: 1, 3, 4, 2

TIMING PROCEDURE

1. Connect tachometer
2. Connect timing light to No. 1 spark plug or distributor cap tower
3. Set distributor vernier at "Full Retard" position, except Minx Series III-C, V, Husky Series III, Super Minx, one notch before "Full Retard"
4. Bring engine to operating temperature
5. Set idle speed to 400-500 rpm, transmission in NEUTRAL
6. Observe timing mark at pulley and turn distributor housing to obtain alignment of mark with pointer (this represents 0° BTDC)
7. Turn vernier knob 2-2⅔ turns to advance timing to 6°-8° BTDC (pulley marker should appear .216″-.295″ before pointer). Minx Series III-C, V, Husky Series III, turn vernier knob 1-1½ turns to advance timing to 6°-8° BTDC (pulley marker should appear .197″-.275″ before pointer); Super Minx, 2 turns, 8°-11° BTDC (.275″-.355″)
8. Reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): Super Minx, 8°-11°; others, 6°-8°

FUEL PUMP

AC type: YD (on Husky); UG (on Minx)
Pressure: 1½-2½ lb. at cranking speed
Volume: Approx. 1 pint in 1 minute idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
SOLEX 1-bbl.	1-2
ZENITH 1-bbl.	1-2

ENGINE IDLE SPEED

Manual Trans. 600-650 rpm
Auto. Trans. 600-650 rpm in NEUTRAL

VALVE CLEARANCES

(engine at 180°F., not running)
Intake .012″; exhaust .014″

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
Husky Series III, Minx Series V, Super Minx	7½	...
All other models...	7⅞	7⅜

Cooling system pressure: 1957-58, 7 pounds; 1959-63, 4 pounds; except Super Minx, Mark I, 7 pounds. 1964, 9 pounds

[6] **Generator** (oil hole) .... MO

[★] **Battery** .... Test and fill
Super Minx, right side

Air Cleaner Element .... Service
[3] Oil bath .... Wash and fill MO
[3] Dry type .... Clean
[12] Dry type .... Replace
[C] Wire gauze .... Wash and oil

[3] **Steering Gear** (rubber plug or fittings) ...... EP
Above +10°, 140; below +10°, 90
Early models, 2 fittings; late models, rubber plug
With fittings, to lubricate, turn wheels fully to right

[★] **Clutch Master Cylinder** (plug) .... HB
Fill to ½ inch below top of fill hole
Not on models with automatic transmission

[★] **Brake Master Cylinder** (plug) .... HB
Fill to ½ inch below top of fill hole

[★] **Front Suspension and Steering Linkage** ... (0*, 1*, 15, 19 or 21 fittings) CL
* Super Minx Mark I, 1 fitting on idler arm; Mark II and Minx Series V, no fittings

TRANSMISSION, Manual .... MO

Above -10°, 30; below -10°, 20,20W
[★] Maintain level to fill plug hole or to mark on dipstick
Models with floor shift reach thru floor at right of tunnel
CAPACITY 3⅜ pints
[6] DRAIN and REFILL

[★] **Universal Joints** .... 140 EP
Super Minx Mark I, front joint only. Minx Series V and Super Minx Mark II, no lubrication

[★] **Hand Brake Cable** CL
Minx Series V and Super Minx Mark II, no lubrication

DIFFERENTIAL .... EP

Hypoid: Above -10°, 90; below -10°, 80
Spiral Bevel: Above +32°, 140; above -10°, 90; below -10°, 80
[★] Maintain level to fill plug hole
CAPACITY 2 pints
[6] DRAIN and REFILL

GAS TANK .... Gallons

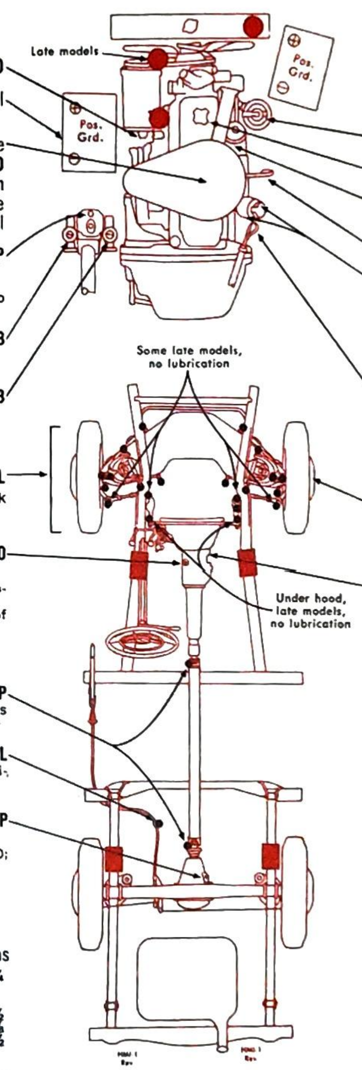
Super Minx Mark I	13¼
Minx Series V, Super Minx Mark II Estate car	12
Super Minx Mark II sedan, convertible	12½
Other Minx series	8¾
Husky series	7½

TIRES

Pressure	Front	Rear
5.90-13, 6.00-13	25*	25*
6.50-13, Super Minx Estate car	25*	25*
Full load	25*	30
5.00-15, 5.60-15, 5.90-15	24◆	24◆
Full load	24◆	26◆
5.90-15, Minx Estate car	24◆	26◆
Full load	24◆	28◆

* High-speed driving, 28
◆ Sustained high-speed driving, add 6 pounds

[3] Rotate tires, Method C, then balance wheels



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO

Above +70°	30	20W-40
Above +20°	20,20W	10W-30
Above +5°	10W	10W-30
Below +5°	...	5W-20

CAPACITY Husky series I, 3¼ quarts; all others (including oil filter), 4¼ quarts
DRAIN and REFILL
See Service Instructions, page 4

Fuel Filter Sediment Bowl and Screen .... Clean [6]

Oil Fill Cap

Oil Filter .... Replace [6]
Not on Husky series I

Crankcase Dipstick .... Check level

Distributor
Cam bearing (under rotor) .... Sparingly MO [3]
Advance mechanism .... MO [3]
Sparingly thru hole around cam

TRANSMISSION, Automatic .. AF

Borg-Warner
Check level, engine idling, PARK position .... [★]
CAPACITY 6½ quarts
DRAIN and REFILL Not recommended

Front Wheel Bearings .... Repack WB [12]
Initial torque, 15-20 ft. lb.; final adjustment, loosen to obtain .003″-.007″ end play

TRANSMISSION, Automatic MO

Easidrive
Above 0°, 10W-30; below 0°, 5W-20
Fill to mark on dipstick .... [★]
CAPACITY 3¼ pints
DRAIN and REFILL .... [6]

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2″, the need for service is indicated
Front brakes have two adjusters. Rear brakes are provided with a single adjuster which operates both shoes
Adjust the brakes as follows:
Minx Series, Husky Series, Super Minx Mark I

1. With car raised and hub caps removed, turn wheel until adjustment opening in wheel and drum lines up with slotted head adjuster
2. Turn adjuster until the shoe or shoes contact the drum and back off the adjuster one notch
3. Repeat procedure at each wheel
4. Apply brakes firmly a few times and recheck adjustments

Super Minx Mark II, Minx Series V: Self-adjusting disc brakes are used on front. Rear brakes are drum type and are adjusted as shown above

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

[★] Every 1,000 miles
Super Minx, Minx Series V: Every 3,000 miles
[3] Every 3,000 miles
[6] Every 6,000 miles
[12] Every 12,000 miles
[C] Conditional service
Wash and oil wire gauze air cleaner element as required

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF	Automatic Transmission Fluid, Type A, Suffix A	EP	Mild Extreme Pressure Gear Lubricant
CL	Chassis Lubricant	HB	Hydraulic Brake Fluid, Heavy-Duty
MO	Motor Oil	WB	Wheel Bearing Grease

JAGUAR
1962-64 "E" Type

HOOD RELEASE: Early models, rear of both front fenders; late models, inside right and left

TUNE-UP DATA
See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	Special	60

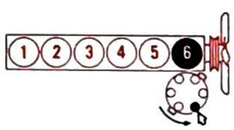
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
8:1CR 155
9:1CR 180

SPARK PLUGS
Champion: Early models, N-5; late models, UN-12Y; for racing, N-3
Gap: .025"
Torque: 25 ft. lb.

IGNITION POINTS
Lucas
Gap: .014"-.016"
Dwell angle: 33°-37° (35° preferred)

CONDENSER
Lucas
Capacity: .18-.25 mfd

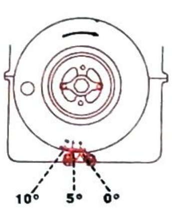
Cylinder Numbering Sequence



Firing Order: 1, 5, 3, 6, 2, 4
Note: No. 1 cylinder is at rear

TIMING PROCEDURE
1. Centralize distributor micrometer advance mechanism
2. Loosen distributor clamp bolt and connect a 12-volt test lamp to distributor primary terminal and to ground
3. Turn engine until recommended timing mark on pulley is aligned with pointer
4. Turn distributor until points just open as indicated by test lamp. Rotor must be pointing toward No. 6 distributor cap tower
5. Tighten clamp bolt securely

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 8:1CR engine, 9°; 9:1CR engine, 10°

FUEL PUMP
Lucas electric: type 2 F.P.
Pressure: 2-2½ lb. at 13.5 volts
Volume: 60 ounces per minute

CARBURETOR ADJUSTMENT

S.U.	Idle Mixture (initial turns)
Triple 1-bbl. HD-8	2½

ENGINE IDLE SPEED
500 rpm

VALVE CLEARANCES
(engine cold, not running)
Intake .004"; exhaust .006"
For racing: Intake .006"; exhaust .010"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts With Heater
All models 19¼
Cooling system pressure: Early models, 4 pounds; late models, 9 pounds

★ **Carburetor Dashpots** (3 caps) .... 20 MO
Unscrew caps and add as required

★ **Battery** .... Test and fill

Oil Fill Cap ....

5 **Generator** (oil hole) .... Sparingly MO
Early models, no lubrication

★ **Clutch Fluid Reservoir** (cap) .... HB
Fill to level mark on reservoir

★ **Brake Fluid Reservoirs** (2 caps) .... HB
Fill to level marks on reservoirs

Crankcase Dipstick .... Check level

★ **Steering Gear** .... LM
Use low pressure, do not swell retainer boots. Check boot clamps for tightness

★ **Front Suspension and Steering Linkage** .... (6 fittings) LM

TRANSMISSION .... 30 MO
Reach thru opening in left side of transmission cover. Lift carpet and cover to expose opening
★ Maintain level to fill plug hole
CAPACITY 3 pints
10 DRAIN and REFILL

5 **Door Hinges** Both sides .... Sparingly LM
Late models, no fittings

★ **Universal Joint and Spline** .... LM
Reach thru opening in left side of transmission cover. Lift carpet and cover to expose opening
Late models, no lubrication

★ **Universal Joint** .... LM
Late models, no lubrication

★ **Rear Axle Shaft Univ. Joints** Both sides .... LM
Late models, no lubrication

10 **Rear Wheel Bearings** (plug) .... LM
Remove wheel to expose plug. Fill opening with lubricant using low pressure. Do not pack hubs

5 **Rear Suspension Pivot Brgs.** Both sides .... LM

DIFFERENTIAL, Powr-Lok .... 90 HP*
★ Maintain level to fill plug hole
CAPACITY 3¼ pints
10 DRAIN and REFILL

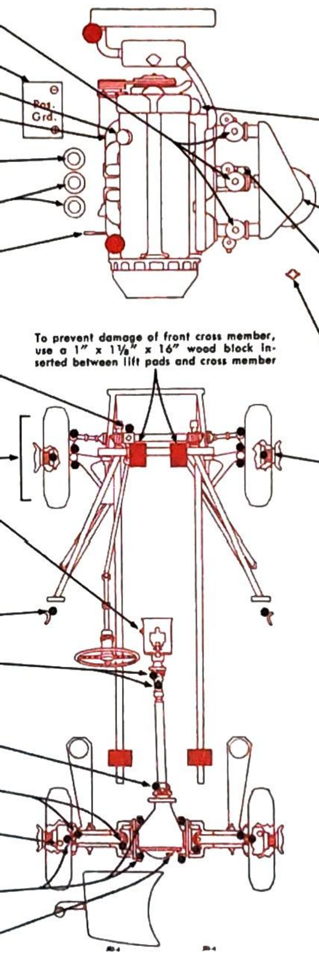
GAS TANK .... Gallons
All models 16¾

TIRES	Pressure Front	Rear
6.40-15 (normal driving)	23*	25*
Sustained high speeds	30◆	35◆

* Not over 130 mph
◆ For maximum speeds over 130 mph

★ Rotate tires, Method A or G, then balance wheels

Chek-Chart



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO

Above +90°	40	10W-30
Above +32°	30	10W-30
Below +32°	20	10W-30

CAPACITY (including oil filter) 9 quarts
DRAIN and REFILL
See Service Instructions, page 4

Distributor
Cam bearing (under rotor) .... Sparingly MO ★
Advance mechanism and shaft .... MO ★
Sparingly thru hole around shaft

Air Cleaner Element .... Service
Dry type .... Replace 10

Oil Filter .... Replace 5
Filter must be drained thru plug provided, if element is not replaced at crankcase drain. Start-stop city driving, low speeds or worn engine every 2,500 miles

Fuel Filter Sediment Bowl and Screen .... Clean 5
Also clean screens in carburetor float bowl unions

Front Wheel Bearings .... Sparingly LM 10
Remove wheel to expose fitting
Observe vent hole while lubricating
Adjust bearings to obtain .003"-.005" end play

BRAKE ADJUSTMENT

Disc brakes on all wheels, no adjustment required.
Replace pads when worn to ¼" thickness
Bleeding sequence: LR, RR, RF, LF

KEY TO INTERVALS

★ Every 2,500 miles
5 Every 5,000 miles
10 Every 10,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

HB Hydraulic Brake Fluid, Heavy-Duty SAE 70R3
HP* Hypoid Gear Lubricant
LM Lithium Grease No. 2
MO Motor Oil

* Special lubricant suitable for Powr-Lok differential must be used

MERCEDES-BENZ

1960-64 Models 190c, -Dc; 220b, -Sb, -SEb; 230SL

230SL

220b, -Sb, -SEb

HOOD RELEASE: Inside

190c, -Dc

TUNE-UP DATA

See Service Instructions for Procedure

(Diesel engine tune-up data not included)

BATTERY

	AABM Group No.	Amp. Hrs.
220SEb	Special	60
230SL	Special	55
Others	Special	52

COMPRESSION PRESSURE

(psi at cranking speed, throttle open)
190c 128-142; 220 series (8.7:1CR) 130-150, (7.6:1CR) 115-135; 230SL 140-160

SPARK PLUGS

Refer to car owner's manual

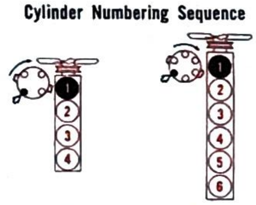
IGNITION POINTS

Bosch
Gap: 190c .016"-.020"; 220 series, 230SL .012"-.016"
Dwell angle: 190c 48°-52°; 220 series, 230SL 34°-38°

CONDENSER

Bosch
Capacity: .25-.30 mfd

Cylinder Numbering Sequence



4-cyl. 6-cyl.

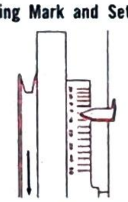
Firing Order: 4-cyl. 1, 3, 4, 2; 6-cyl. 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Disconnect all spark plug wires, connect timing light to No. 1 spark plug wire and connect tachometer
2. Crank engine with starter and adjust timing to initial setting
3. Reconnect plug wires and run engine at 4000-4500 rpm to check maximum advance setting

Note: Correct high-speed advance setting is more vital than low-speed setting

Timing Mark and Setting



Timing Setting (Before Top Dead Center): Values to left of slash (/) are initial settings at cranking rpm. Values to right of slash are to be observed at 4000-4500 rpm with vacuum connected. 190c, 2°/48°-52°; 220b, 3°/43°-47°; 220Sb, 4°/44°-48°; 220SEb, 4°/40°; 230SL, 4°/44°①
① At 3000 rpm

FUEL PUMP

Solex except 220SEb, 230SL Bosch electric
Pressure: Solex models, 2.1-2.8 lb. at idle rpm; Bosch models, 10 lb. (electric)
Volume: Solex, 1-1¼ pints ex. 220b, -Sb, 230SL, 2½-2⅝ pints in 1 minute at idle rpm; Bosch, 1 gallon in 1 minute

CARBURETOR ADJUSTMENT

SOLEX	Idle Mixture (initial turns)
Single or dual 1-bbl. or 2-bbl.	1½-2

ENGINE IDLE SPEED

Manual Trans. 750-800 rpm
Auto. Trans. 680-720 rpm in NEUTRAL or DRIVE

VALVE CLEARANCES

(engine cold, not running)
Gasoline engines: 190c, 220b, -Sb, -SEb, intake .003"; exhaust .006"; 230SL, intake .003"; exhaust .007"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM ....Quarts

	With Heater
190c, -Dc	10⅝
220 series	12
230SL	11⅜

Cooling system pressure, 14 pounds

★ **Power Steering Reservoir** ....AF
Maintain level ½ inch below top of reservoir
11.4 DRAIN and REFILL

30.4 **Power Steering Reservoir Filter** ......Replace

11.4 **Distributor Shaft** (oil cup) ....MO
11.4 Wick under rotor ....MO

11.4 **Fine Fuel Filter** ....Service
190Dc ....Wash and blow dry
220SEb, 230SL ......Replace paper element
190Dc, located forward

Fuel Prefilter (in line) ....Service
11.4 190Dc ....Clean wire strainer
11.4 220b, -Sb ....Clean cup only
32 220b, -Sb ....Replace element

3.8 **Fuel Injection Pump** ....MO
Maintain level to plug hole or mark on dipstick

★ **Battery** ....Test and fill

Oil Filter ....Service
3.8 190Dc (fabric and paper elements) ..Service
Wash fabric disc element in gasoline, blow dry with low air pressure. Replace paper element
7.6 Others ....Replace

★ **Clutch Fluid Reservoir** (cap) ....HB
Maintain reservoir ¾ full

★ **Brake Fluid Reservoir** (cap) ....HB
Maintain reservoir ¾ full
230SL, located on brake booster

11.4 **Steering Gear** (plug) ....90 HP

63 **Booster Brake Air Cleaner Element** ....Replace
On models with power brakes
190, 220 series, located left of radiator

★ **Front Suspension and Steering Linkage** ....(15 fittings) CL

TRANSMISSION, Manual .....AF

3.8 Maintain level to fill plug hole
CAPACITY 3 pints
11.4 DRAIN and REFILL

★ **Propeller Shaft Flange** CL

★ **Propeller Shaft Bearing** CL

★ **Universal Joint Spline** CL

DIFFERENTIAL ....90 HP

3.8 Maintain level to fill plug hole
CAPACITY 5¼ pints
11.4 DRAIN and REFILL 14 mm hex wrench required

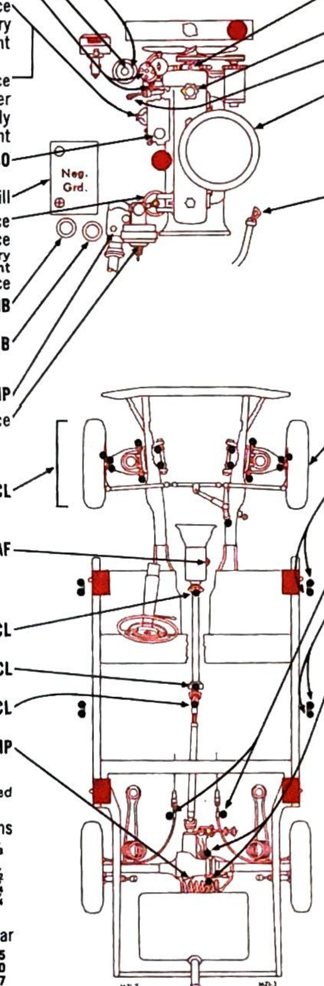
FUEL TANK ....Gallons

190c, -Dc	13⅜
Late 220b, -Sb, -SEb; 230SL	17
Early 220b	13½
Early 220Sb	16¾
Early 220SEb	16¼

TIRES

Pressure	Front	Rear
6.70-13, 220b, -Sb, -SEb	22	25
Full load or high-speed driving	22	30
7.00-13	21½	27
Full load	22	30
7.25-13	22	25
Full load	24	30
185-14	25½	31

3.8 Rotate tires, Method B or C, then balance wheels



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE ...."MS" MO

Above +90°	30	...
Above +32°	20,20W	10W-20,10W-30
Above −10°	10W	10W-20,10W-30
Below −10°	5W	5W-20

CAPACITY 190c, -Dc, 4¼ quarts; others, 5¾ quarts
DRAIN and REFILL
See Service Instructions, page 4

Water Pump (plug) ....90 HP 11.4
Maintain level to side plug opening

Oil Fill Cap

Crankcase Dipstick ....Check level

Air Cleaner Element ....Service
Dry type ....Clean 3.8
Dry type ....Replace 11.4
Every 11,400 to 32,000 miles
Oil bath ....Crankcase grade MO 3.8
Wash and fill

TRANSMISSION, Automatic ..AF

Check level, engine idling, PARK position ....★

CAPACITY, quarts	Initial Refill	Total Refill
All except 190Dc	3	5*

* Approximately 4 quarts will fill unit
DRAIN and REFILL 11.4
Remove 1 converter plug and transmission plug
Reinstall plugs using new seals

Front Wheel Bearings ....BR 11.4
Fill dust cap and replace. Do not remove wheel hub

Door Hinges Both sides ....CL 11.4
Special Mercedes lube gun required

Hand Brake Cables ....CL ★
On early models

Door Hinges Both sides ....CL 11.4
Special Mercedes lube gun required

Swing Axle Pivot ....CL ★

BRAKE ADJUSTMENT

Two adjustment cams are provided on each plate
Adjust the brakes as follows:
Models 190c, -Dc; 220b; midproduction 220Sb, -SEb
1. Turn each adjuster cam until a considerable resistance is felt when drum is revolved
2. Back off each adjuster until drag is just eliminated and drum turns freely

Late 220Sb, -SEb; 230SL
Disc brakes on front, no adjustment required. Rear brakes, adjust as shown above
Some early 220SEb Coupe, self-adjusting rear brakes, late models, adjust as shown above
First production 220Sb, -SEb use self-adjusting drum brakes

Bleeding sequence: Power brake upper screw, lower screw, RR, LR, RF, LF; Power brake upper screw, lower screw, master cylinder (if equipped with bleed screw)

KEY TO INTERVALS

- ★ Every 1,900 miles
- 3.8 Every 3,800 miles
- 7.6 Every 7,600 miles
- 11.4 Every 11,400 miles
- 30.4 Every 30,400 miles
- 32 Every 32,000 miles
- 63 Every 63,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A
- **BR** Ball and Roller Bearing Lubricant
- **CL** Chassis Lubricant
- **HB** Hydraulic Brake Fluid, Heavy-Duty
- **HP** Hypoid Gear Lubricant
- **MO** Motor Oil "MS" meeting MIL-L-2104A

M.G.

1956-62 Series MGA
1963-64 Series MGB

1500, 1600
Series MGA

1600 Mark II
Series MGA

HOOD RELEASE: Inside

Series
MGB

TUNE-UP DATA

See Service Instructions for Procedure

(Following data does not include "Twin Cam" model or modified, stage tuned engines)

BATTERY

	AABM Group No.	Amp. Hrs.
All	17HF(2) (6-volt)	58

COMPRESSION PRESSURE

(at cranking speed with throttle open)	psi
1500 engine	140-160
1600 Mark I engine	140-160
1600 Mark II engine	150-170
MGB engine	150-170

SPARK PLUGS

Champion: Normal driving, N-5*; high-speed or competition driving, N-3
Gap: .025"
Torque: 25 ft. lb.
* MGB, N-9Y may be used

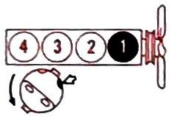
IGNITION POINTS

Lucas
Gap: .014"-.016"
Dwell angle: 57°-63° (60° preferred)

CONDENSER

Lucas
Capacity: .18-.25 mfd

Cylinder Numbering Sequence



Firing Order: 1, 3, 4, 2

TIMING PROCEDURE

1. Position distributor vernier at center of scale
2. Connect 12-volt test lamp to distributor primary terminal and to ground
3. Turn crankshaft pulley until notch is aligned with recommended degree pointer on timing gear cover
4. Loosen distributor clamp bolt and turn distributor housing until breaker points just open, as indicated by test lamp
5. Tighten distributor clamp bolt
6. Make final precise adjustment with vernier knob and test lamp

Timing Mark and Setting

Timing Setting (Before Top Dead Center):
1500 engine, 7°
1600 Mark I engine, 6°
1600 Mark II engine, before engine No. 4003, 10°; after engine No. 4004, 5°
MGB engine, 10°

FUEL PUMP

S.U. electric: type HP
Volume: 18 ounces per minute

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
S.U. Twin 1-bbl.	1

ENGINE IDLE SPEED

550-600 rpm

VALVE CLEARANCES

(engine hot, not running)
Intake .015"; exhaust .015"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
MGB	6	5¾
Twin Cam	8	7½
All other models	6½	6

Cooling system pressure, 4 pounds; after Serial No. 71831, 7 pounds. All Twin Cam, 7 pounds

[12] **Steering Gear** .... MP
Above +10°, 90; below +10°, 80
Twin Cam models, reach under car. Lubricate sparingly, use low pressure, do not swell rubber boots MGB, no fitting on rack gear. If leaks are observed, loosen right side boot and inject not more than ½ pint lubricant

[12] **Water Pump** (plug) .... Sparingly 140 MP
Twin Cam (fitting) .... Sparingly 140 MP

Oil Fill Cap ....
Twin Cam models, forward on left cam cover

[★] **Carburetor Dashpots** .... 20,20W MO
Unscrew caps, maintain level at ½ inch below top of inner hollow shaft
Twin Cam models, right side

Air Cleaner Elements .... Service
Twin Cam models, right side
[3] Wire gauze .... Wash and oil 20 MO
[3] Dry type, MGB .... Clean
[12] Dry type, MGB .... Replace

[★] **Clutch and Brake Master Cylinder** (plug) .... HB
Fill to ¼ inch below top of fill hole
MGB and Twin Cam models, separate reservoirs

[★] **Front Suspension and Steering Linkage** ....(4 or 6 fittings) CL

TRANSMISSION .... 30 MO
[★] Maintain level to mark on dipstick
Combination fill plug and dipstick reach thru tunnel cover
CAPACITY Series MGA, 5⅜ pints; Series MGB, 5⅝ pints; with overdrive 6 pints
[6] **DRAIN and REFILL**
Overdrive, drain thru separate plug hole. Fill thru transmission. Remove rectangular plate on right side to clean filter screen, when draining. Before draining, operate switch 10 to 12 times with ignition ON and 4th gear engaged

[12] **Speedometer Cable** .... Coat CL
[★] **Universal Joint Spline** CL
1500, no lubrication
[★] **Universal Joints** CL
[★] **Batteries** .... Test and fill
[★] **Hand Brake Cable** CL

[12] **Rear Shock Absorbers** ...... Remove and fill SA
MGB, reach thru rubber plug in floor

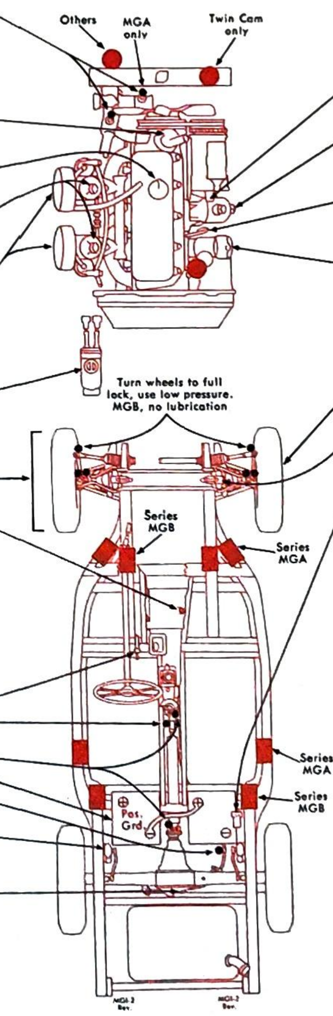
DIFFERENTIAL .... MP
Above +10°, 90; below +10°, 80
[★] Maintain level to fill plug hole
CAPACITY 2¾ pints
[6] **DRAIN and REFILL**

GAS TANK .... Gallons
All models 12

TIRES ..... Pressure	Front	Rear
5.60-14, 5.60-15	17	20
Fast driving	21	24
Sustained high speeds	23	26
5.90-14, 5.90-15	18	20
Fast driving	22	24
Sustained high speeds	24	26

[3] Rotate tires, Method B, then balance wheels

Chek-Chart



CRANKCASE .... "MS" MO

Above +32°	30	20W-30
Above +10°	20,20W	20W-30
Below +10°	10W	...

CAPACITY Twin Cam, 7½ quarts; 1500, 1600, 1600 Mark II, MGB, 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Generator (oil hole) .... Sparingly MO [6]

Oil Filter (under car) .... Replace [6]
Add extra pint oil

Crankcase Dipstick .... Check level
Twin Cam models, left side rear

Distributor
Twin Cam models, left side forward
Cam bearing (under rotor) .... Sparingly MO [6]
Advance mechanism .... MO [6]
Sparingly thru hole around cam

Front Wheel Bearings .... Repack WB [6]
Special hub puller required

Front Shock Absorbers .... Fill SA [6]

Fuel Pump Screen .... Clean [6]

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated

MGA front or rear drum brakes:
Front brakes have two adjusters. Rear brakes have a single adjuster which operates both shoes
Adjust the brakes as follows:

1. Raise car, remove hub caps, remove plugs from adjustment holes in brake drums (With wire wheels, remove wheels)
2. Turn drum until hole lines up with slotted head adjuster
3. Turn adjuster until drum is locked
4. Back off adjuster until drum just turns freely without drag
5. Repeat steps 2, 3 and 4 for second adjuster
6. Repeat procedure at each wheel

MGB rear drum brakes:
A single square head adjuster is provided on the inboard side of each rear backing plate

1. Turn adjuster clockwise until drum is locked
2. Back off adjuster until drum turns freely without drag

MGA, MGB front or rear disc brakes:
Disc brakes are self-adjusting. No adjustment normally required
Bleeding sequence: RR, LR, RF, LF

Position for lift adapter
Lubrication fitting
Cooling system drain

KEY TO INTERVALS

[★] **MGA: Every 1,000 miles**
MGB: Every 3,000 miles
[3] **Every 3,000 miles**
[6] **Every 6,000 miles**
[12] **Every 12,000 miles**

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CL	Chassis Lubricant	**MO**	Motor Oil	**SA**	Shock Absorber Fluid, Light
HB	Hydraulic Brake Fluid, Heavy-Duty	**MP**	Multi-Purpose Gear Lubricant	**WB**	Wheel Bearing Grease

M.G.
1963-64 Sports Sedan

TUNE-UP DATA
See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	Special	43

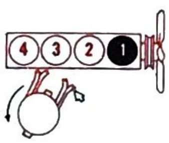
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All .... minimum 125

SPARK PLUGS
Champion N-5
Gap: .025"
Torque: 30 ft. lb.

IGNITION POINTS
Lucas
Gap: .014"-.016"
Dwell angle: 57°-63° (60° preferred)

CONDENSER
Lucas
Capacity: .18-.22 mfd

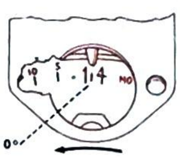
Cylinder Numbering Sequence



Firing Order: 1, 3, 4, 2

TIMING PROCEDURE
1. Position distributor vernier at center of scale
2. Connect 12-volt test lamp to distributor primary terminal and to ground
3. Turn flywheel until recommended mark on flywheel aligns with pointer on flywheel housing
4. Loosen distributor clamp bolt and turn distributor housing until breaker points just open, as indicated by test lamp
5. Tighten distributor clamp bolt
6. Make final precise adjustment with vernier knob and test lamp

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 4°

FUEL PUMP
S.U. electric, type SP
Pressure: 2½-3 lb.
Volume: 27 ounces per minute

CARBURETOR ADJUSTMENT

S.U.	Idle Mixture (initial turns)
Twin 1-bbl. HS-2	2

ENGINE IDLE SPEED
615 rpm

VALVE CLEARANCES
(engine cold, not running)
Intake .012"; exhaust .012"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	4	3½

Cooling system pressure, 13 pounds
Pressure cap located on expansion tank. Non-pressure cap located on radiator

Chek-Chart

CRANKCASE, TRANSAXLE .... "MS" MO

Above +32°	30	20W-30
Above +10°	20,20W	20W-30
Below +10°	10W	...

CAPACITY (including oil filter) 5⅛ quarts
DRAIN and REFILL
See Service Instructions, page 4

[6] **Oil Filter** (under car) .... Replace
Replace every 6,000 miles or if oil pressure light glows when engine is running, disconnect wire at filter assembly. If light goes out, replace element within 300 miles

[6] **Generator** (oil hole) ..... Sparingly 20,20W MO

[12] **Water Pump** (plug) .... Sparingly LM

[★] **Carburetor Dashpots** (2 caps) ..... 20,20W MO
Unscrew cap, maintain level ½ inch below top of inner hollow shaft

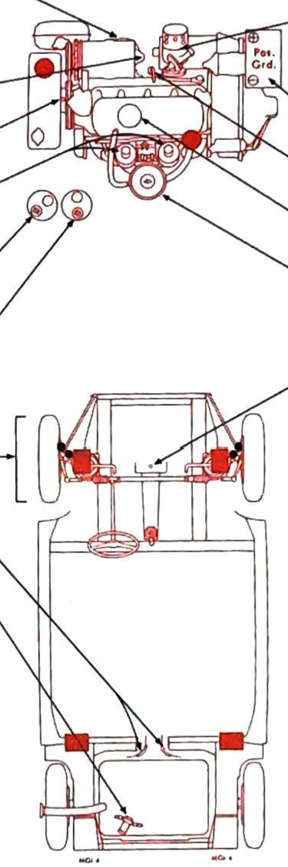
[★] **Clutch Master Cylinder** (plug) .... HB
Fill to ¼ inch below bottom of fill hole

[★] **Brake Master Cylinder** (plug) .... HB
Fill to ¼ inch below bottom of fill hole

[★] **Front Suspension** .... (4 fittings) LM
Wheels should be hanging free when lubricating

[★] **Hand Brake Cable Guides** .... Coat LM

[6] **Fuel Pump Screen** .... Clean



Distributor
Cam bearing (under rotor) .... Sparingly MO [6]
Advance mechanism .... MO [6]
Lubricate sparingly thru hole around cam

Battery .... Test and fill [★]

Crankcase Dipstick .... Check level

Oil Fill Cap Crankcase, Transaxle

Air Cleaner Element .... Service
Dry type .... Replace [12]

Remote Control Shaft .... Sparingly LM [C]
Located in center, top of transaxle. Reach under hood

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated

Self-adjusting disc brakes are used on front

Rear brakes are drum type and one square headed adjuster is provided on each rear backing plate

Adjust the rear brakes as follows:
1. Turn each adjuster until wheel cannot be turned by hand
2. Back off each adjuster until wheel just turns freely without drag
3. Repeat procedure at each rear wheel

Bleeding sequence: RR, LR, RF, LF

GAS TANK .... Gallons
All models 10¼

TIRES	Pressure Front	Rear
5.50-12	28	24

[★] Rotate tires, Method A, then balance wheels

Position for lift adapter
Lubrication fitting
Cooling system drain

KEY TO INTERVALS
[★] Every 3,000 miles
[6] Every 6,000 miles
[12] Every 12,000 miles
[C] Conditional service
Lubricate remote control shaft only if shifting is stiff or at time of major engine overhaul

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS
HB Hydraulic Brake Fluid, Heavy-Duty SAE 70R3
LM Lithium Grease
MO Motor Oil

MORRIS

1950-63 Minor Series MM, II, 1000; Oxford Series MO, II, III; Cowley

HOOD RELEASE: Inside

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1950-63 Minor Series	Special	43
1950-60 Oxford, Cowley	29H	58

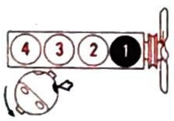
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
Series 1000 with 8.3:1CR 140-160
Others 120-140

SPARK PLUGS
Champion N-5
Gap: .025"
Torque: 25 ft. lb.

IGNITION POINTS
Lucas
Gap: Early models with distributor No. 40152 A to F, 40251 A to D, 40333 A to H, 40358 A to F; initial setting .014"-.016"; normal service setting .010"-.012". All other distributors, used or new points, .014"-.016"
Dwell angle: Early models, 45°-53° (49° preferred) Others, 57°-63° (60° preferred)

CONDENSER
Lucas
Capacity: .18-.25 mfd

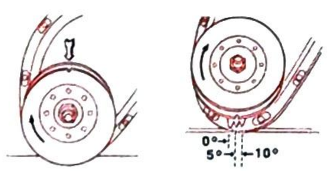
Cylinder Numbering Sequence



Firing Order: 1, 3, 4, 2

TIMING PROCEDURE
1. Position distributor vernier at center of scale
2. Connect 12-volt test lamp to distributor primary terminal and to ground
3. For Minor Series II and early Oxford Series II, place a chalk mark on rim of crankshaft pulley clockwise from notch. (Each 3/32" on rim of Minor Series II pulley equals approx. 2°; each 3/16" on rim of Oxford Series II pulley equals approx. 5°) This mark represents correct degree setting. Other models, use notch on crankshaft pulley
4. Turn crankshaft pulley until mark, or recommended notch, is aligned with pointer on timing gear cover
5. Loosen distributor clamp bolt and turn distributor housing until breaker points just open, as indicated by test lamp
6. Tighten distributor clamp bolt
7. Make final precise adjustment with vernier knob and test lamp

Timing Mark and Setting



L-head, early OHV engs. Late OHV eng.

Timing Setting (Before Top Dead Center):
Minor: Series II (3/32" mark), 2°; Series 1000, 5°
Oxford Series II (3/16" mark), III, Cowley, 5°
Minor Series MM, Oxford Series MO, 0° *
* Make final adjustment by road test

FUEL PUMP
S.U. electric, type L
Pressure: 3/4-1 lb.
Volume: 19 3/4 ounces per minute

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
S.U. 1-bbl.	1/2-1 1/2

ENGINE IDLE SPEED
500-650 rpm

VALVE CLEARANCES
(engine hot and running)
Minor Series II: Intake .011"; exhaust .011"
Oxford Series II, III, MO; Cowley: Intake .015"; exhaust .015"
Minor Series MM: Intake .017"; exhaust .017"
(engine cold, not running)
Minor Series 1000: Intake .012"; exhaust .012"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
Minor MM	8 1/2	8
Minor II	6 1/4	6
Minor 1000	6 1/4	6
Oxford MO	10 1/4	10
Oxford II, III, Cowley	8 1/2	8

Cooling system pressure, Minor series, 4 pounds

★ **Water Pump** (plug) .... Sparingly 140 **MP**
1950, early 1951 Minor .... **MO**
Models with fitting .... Sparingly **WB**

Oil Fill Cap ....
Oxford MO, at front; Minor MM, right side; all others, top of valve cover

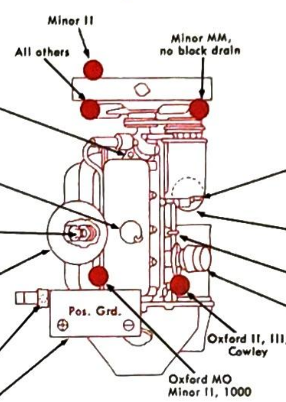
★ **Carburetor Dashpot** .... **MO**
Unscrew cap, maintain level at 1/2 inch below top of inner hollow shaft

Air Cleaner Element .... Service
[3] Oil bath .... Wash and fill **MO**
[3] Dry type .... Clean
[12] Dry type .... Replace

[6] **Fuel Pump Screen** .... Clean

★ **Battery** .... Test and fill

Chek-Chart



CRANKCASE .... "MS" **MO**

Above +32°	30	20W-30
Above +10°	20,20W	20W-30
Below +10°	10W	...

CAPACITY (includes filter) Minor MM, Minor II, 4 quarts; Minor 1000, 4 1/4 quarts; Oxford MO, 5 3/4 quarts; Oxford II and Cowley, 4 1/4 quarts; Oxford III, 4 1/2 quarts
DRAIN and REFILL
See Service Instructions, page 4

Generator
1953 and later (oil hole) .... **MO** [3]
Others (lubricator cap) .... **WB** [3]

Oil Filter .... Replace [6]
Minor 1000, reach under car

Crankcase Dipstick .... Check level

Distributor
At left on Minor MM and Oxford MO
Cam bearing (under rotor) .... Sparingly **MO** [3]
Advance mechanism .... **MO** [3]
Sparingly thru hole around cam

★ **Front Suspension and Steering Linkage** .... (6 fittings) **CL**

[12] **Steering Gear** (1 or 2 fittings) .... **MP**
On late Oxford models and Cowley only
Above +10°, 90; below +10°, 80
Oxford II, III, service under hood

TRANSMISSION
★ Reach thru floor. Models without dipstick maintain level to fill plug hole
Minor MM, Oxford MO .... **MP**
Above +10°, 90; below +10°, 80
Others .... 30 **MO**
CAPACITY Minor MM, 1 3/4 pints; Minor II, 2 3/4 pints; Minor 1000, 3 pints; Oxford MO, 2 1/2 pints; Oxford II, III and Cowley, 5 1/2 pints
[6] **DRAIN and REFILL**

★ **Brake Master Cylinder** (thru floor) .... **HB**
Includes hydraulic clutch on Oxford II, III and Cowley
Fill to 1/2 inch below top of fill hole

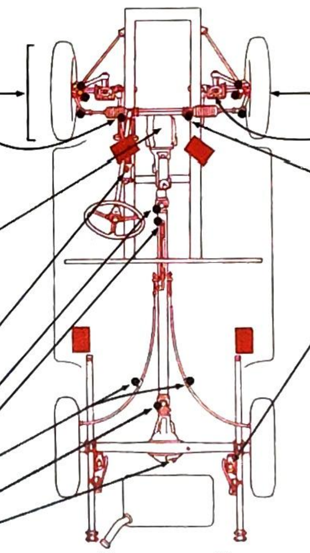
★ **Universal Joint** .... **CL**

★ **Universal Joint Spline** .... **CL**
Minor MM, Oxford MO only; others, no lubrication

★ **Hand Brake** (1 or 2 fittings) .... **CL**
On 1956-63 models

★ **Universal Joint** .... **CL**

DIFFERENTIAL .... **MP**
Above +10°, 90; below +10°, 80
★ Maintain level to fill plug hole
Right side at front on Oxford MO and Minor 1000
Left side forward on Minor MM
CAPACITY Minor MM, Minor II, 1 3/4 pints; Minor 1000, 2 pints; Oxford MO, 2 1/2 pints; Oxford II, III, Cowley, 3 1/4 pints
[6] **DRAIN and REFILL**



Front Wheel Bearings .... Repack **WB** [6]
Special hub puller required

Front Shock Absorbers .... Fill **SA** [6]
Oxford II, III and Cowley, no lubrication

Steering Gear (fitting) .... **MP** [12]
On all Minor and early Oxford
Above +10°, 90; below +10°, 80
Reach thru floor. Oxford necessary to remove plate

Rear Shock Absorbers .... Fill **SA** [6]
Oxford MO, II, III and Cowley, no lubrication

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated
Front brakes have two adjusters. Rear brakes have a single adjuster which operates both shoes
Adjust the brakes as follows:
1. With car raised and hub caps removed, turn wheel until adjustment opening in wheel and drum line up with slotted head adjuster (some models may have a rubber plug which is removed to gain access, others may have no hole in wheel. Remove the wheel to expose hole in drum)
2. Turn adjuster until drum is locked
3. Back off each adjuster until drum just turns freely without drag
4. Repeat procedure at each wheel

Bleeding sequence: RR, LR, RF, LF

GAS TANK .... Gallons

Minor MM, Minor II	6
Minor 1000	6, 7 3/4 *
Oxford MO	10 3/4
Oxford II, III and Cowley	14 1/2

* Late models

TIRES .... Pressure

	Front	Rear
5.00-14	22	22*
5.50-15	24	24

* Full load sedans, normal load wagons, 24

[3] Rotate tires, Method H, then balance wheels

Position for lift adapter
Lubrication fitting
Cooling system drain

KEY TO INTERVALS
★ Every 1,000 miles
[3] Every 3,000 miles
[6] Every 6,000 miles
[12] Every 12,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CL Chassis Lubricant	**MO** Motor Oil	**SA** Shock Absorber Fluid, Light
HB Hydraulic Brake Fluid, Heavy-Duty	**MP** Multi-Purpose Gear Lubricant	**WB** Wheel Bearing Grease

OPEL

1958-63 Olympia Rekord and Caravan

1958-60 1961-63

HOOD RELEASE: Inside

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	19L (6-volt)	77

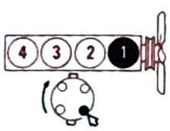
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All ....approximately 145

SPARK PLUGS
AC 45F
Gap: .036"-.040"
Torque: 29 ft. lb.

IGNITION POINTS
Bosch
Gap: .016"-.020"
Dwell angle: 47°-53°

CONDENSER
Bosch
Capacity: .24-.32 mfd

Cylinder Numbering Sequence



Firing Order: 1, 3, 4, 2

TIMING PROCEDURE

1. Loosen distributor clamp bolt, disconnect vacuum line and tape manifold opening
2. Connect timing light to No. 1 spark plug or distributor cap tower
3. Back off carburetor idle speed screw until throttle is closed and engine cannot start
4. Switch on ignition and crank engine with starter
5. Observe timing at flywheel opening and turn distributor to obtain alignment of pointer with steel ball
6. Tighten distributor clamp bolt securely and reconnect vacuum line
7. Set idle speed to 500-550 rpm

Timing Mark and Setting

Timing Setting (Before Top Dead Center):
0° (Steel ball on flywheel aligned with pointer)

FUEL PUMP
AC model 816011
Pressure: 2.13-2.84 lb. at 1950 rpm
Volume: Not required

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
OPEL 1-bbl.	½-1

ENGINE IDLE SPEED
500-550 rpm

VALVE CLEARANCES
(engine hot)
Intake .008"; exhaust .010"

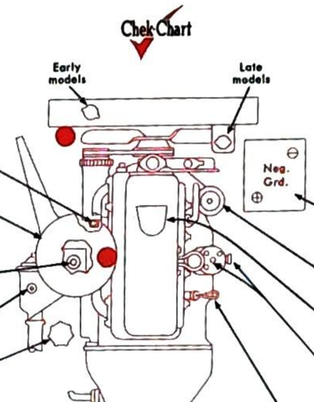
SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
1.5 liter engine....	8⅛	8
1.7 liter engine....	8	7½

Cooling system pressure, some Rekord models, 4 pounds; all other models, 7.8 to 9.2 pounds

CRANKCASE ......"ML" or "MM" MO
Above 0° 20
Below 0° 10W
CAPACITY 3 quarts
DRAIN and REFILL
See Service Instructions, page 4



★ **Generator** (oil hole)....................MO

Air Cleaner ....Service
6 Oil bath...............Wash and fill MO

6 **Carburetor Filter Screen and Sump**......Clean

★ **Steering Gear** (plug).................90 EP

★ **Brake Master Cylinder**..................HB
Fill to ¼ inch below top of fill hole; 1961-63, between "MAX." and "MIN." levels

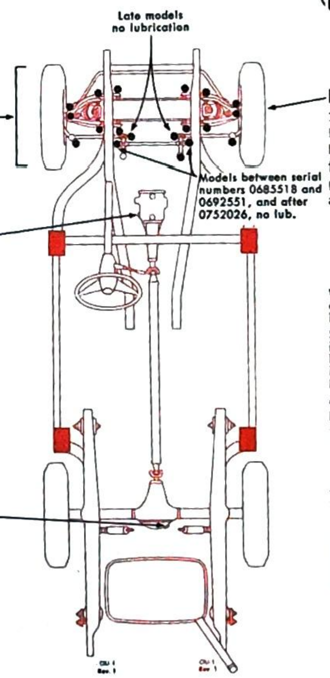
Battery......................Test and fill ★
1958-60, located at rear

Fuel Pump Sediment Bowl and Screen....Clean 6

Oil Fill Cap...............Wash and oil MO 6

Distributor Shaft (grease cup)............WB ★
Turn cup ½ turn
After 1.5 Liter engine serial No. 521847 and all 1.7 Liter engines, no lubrication
Wick under rotor...........Sparingly MO 6

Crankcase Dipstick..............Check level



★ **Front Suspension and Steering Linkage**.....(15 or 19 fittings) CL

Front Wheel Bearings............Repack WB 10
1961-63, repacking not recommended
Initial torque, 25 ft. lb. with brake drum turning. Back off nut until "in" and "out" clearance is felt; then tighten until no longer felt. Lock in this position, if possible, but tighten nut no more than a maximum of 1/12 turn to do so

TRANSMISSION ....80 EP
★ Maintain level to fill plug hole
CAPACITY 2 pints
DRAIN and REFILL
30 1958-60
1961-63 Not recommended

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated

Some models have two covered adjustment openings in each front backing plate; other models have one opening. All models have a single opening in each rear backing plate. A screw driver may be used to turn the adjustment eccentric

Adjust the brakes as follows:

Front brakes

1. Adjust upper shoe through upper opening by turning eccentric clockwise until a slight drag is felt when revolving drum in direction of forward rotation
2. Back off eccentric until drag is just eliminated
3. Repeat steps 1 and 2 for lower shoe using lower opening, if so equipped
4. Repeat steps 1, 2 and 3 for other front wheel

Rear brakes

5. Repeat steps 1 and 2 for each rear wheel

Bleeding sequence: LR, RR, RF, LF

DIFFERENTIAL ....90 HP
★ Maintain level to fill plug hole
CAPACITY 2 pints
12 DRAIN and REFILL

GAS TANK ....Gallons
All models 10½

TIRES..........Pressure	Front	Rear
5.60-13, 5.90-13 (partial load)......	20	21
Full load	20	24
6.40-13 (partial load)............	20	23
Full load	20	36

4 Rotate tires, Method A, then balance wheels

Position for lift adapter
• Lubrication fitting
Cooling system drain

KEY TO INTERVALS

★ Every 2,000 miles
4 Every 4,000 miles
6 Every 6,000 miles
10 Every 10,000 miles
12 Every 12,000 miles
30 Every 30,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CL	Chassis Lubricant	HB	Hydraulic Brake Fluid, Heavy-Duty	MO	Motor Oil
EP	Mild Extreme Pressure Gear Lubricant	HP	Hypoid Gear Lubricant	WB	Wheel Bearing Grease

PEUGEOT

1958-64 Model 403

HOOD RELEASE: Inside

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	55

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi

All 120-150*

* Maximum variation between cylinders must not exceed 10% of highest cylinder pressure

SPARK PLUGS

AC 45F; Autolite AE6; Champion L-10
Gap: .025"
Torque: 18-20 ft. lb.

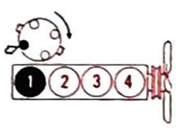
IGNITION POINTS

S.E.V. or Ducellier
Gap: .015"
Dwell angle: 48°-52°

CONDENSER

S.E.V. or Ducellier
Capacity: .35 mfd

Cylinder Numbering Sequence

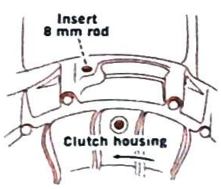


Firing Order: 1, 3, 4, 2

TIMING PROCEDURE

1. Insert a rod 8 mm (.314") in diameter into the hole on top of the clutch housing. A suitable rod is in the tool kit
2. Turn the engine by hand until the rod slips into a notch in the flywheel
3. Connect a 12-volt test lamp across the ignition points
4. Loosen the distributor clamp bolt and turn the distributor until the lamp indicates that the points have just opened. Tighten clamp and remove bar

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 9½°

FUEL PUMP

S.E.V. model 46L/SR; AC model YG
Pressure: 1-3 lb. at idle rpm
Volume: ¾ pint per minute (minimum) at 2000 to 4000 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
SOLEX 1-bbl. 32PBICA	1-2

ENGINE IDLE SPEED

620 rpm

VALVE CLEARANCES

(engine cold, must be cooled for at least 6 hours)
Intake .004"; exhaust .010"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts
With Heater
All models 9½

[★] **Water Pump** (oiler) .... MO

[★] **Oil Filter Metallic screen** .... Wash
Assemble with new gasket

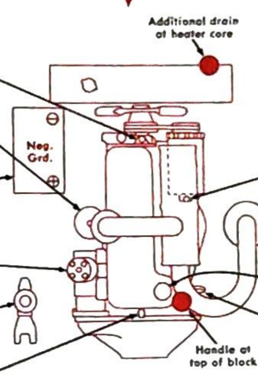
[★] **Battery** .... Test and fill

[★] **Distributor**
Wick under rotor .... Sparingly MO

[★] **Brake Master Cylinder** (cap) .... HB
Fill to level (NIVEAU) mark

[★] **Clutch Throwout Bearing** (oil cup). Sparingly MO
Late models only

Chek-Chart



CRANKCASE .... "MS" MO

Above +90°	40	20W-40
Above +32°	40,30	20W-40
Above +10°	30,20W	20W-40,10W-30
Below +10°	10W	10W-30

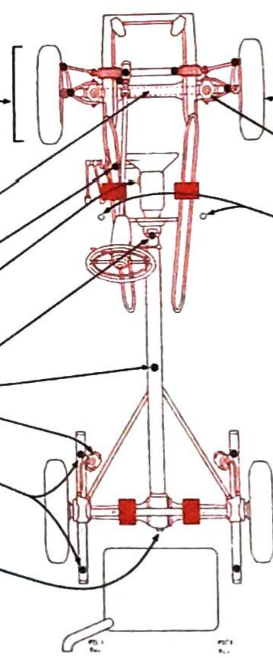
CAPACITY (including oil filter) 4¼ quarts
DRAIN and REFILL
See Service Instructions, page 4

Generator (oil cap) .... MO [4]

Air Cleaner Element .... Service
Oil bath .... Wash and fill MO [★]

Oil Fill Cap

Crankcase Dipstick .... Check level



[★] **Front Suspension and Steering Linkage** .... (7 fittings) CL

Front Wheel Bearings .... LM [10]
½ ounce in dust cap. Do not remove hub

Front Shock Absorbers .... SA [10]
Fill to 1 inch from top

Windshield Wiper Shafts ... Sparingly 10W MO [★]

[C] **Front Springs** .... MO
If springs squeak, brush on MO

[★] **Clutch Pedal** CL

TRANSMISSION .... 30,40 MO
90EP or MP may be used above +60°
[★] Maintain level to fill plug hole
CAPACITY 1958-60, 3¼ pints; 1961-64, 3 pints
[4] DRAIN and REFILL

[★] **Universal Joint** CL

[★] **Propeller Shaft Bearing** CL

[10] **Rear Shock Absorbers** .... SA
Fill to 1 inch from top
On all wagons and sedans before Serial No. 2,370,075; others, no service

[★] **Rear Springs** CL
On station wagon only

DIFFERENTIAL .... 90 EP,MP
[★] Maintain level to fill plug hole
CAPACITY: Sedan, 3 pints; station wagon, 3⅝ pints
[4] DRAIN and REFILL

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated

Two square head brake adjusters are provided on each backing plate

Adjust the brakes as follows:

Front brakes
1. Rotate one adjuster in direction of forward wheel rotation until drum locks
2. Back off adjuster just enough for drum to turn freely
3. Repeat procedure at other adjuster
4. Repeat steps 1, 2 and 3 for other front wheel

Rear brakes
5. Proceed as above for forward adjusters; tighten rear adjusters in opposite direction

Bleeding sequence: RR, LR, RF, LF

GAS TANK .... Gallons
All models 13¼

TIRES .... Pressure

		Front	Rear
Sedan:	6.50-15	19	22
	165-380, Michelin X	18	22
Station wagon:	165-380	22	23
	185-380, Michelin X	19	26

[4] Rotate tires, Method G or H, then balance wheels

Position for lift adapter
Lubrication fitting
Cooling system drain

KEY TO INTERVALS

[★] Every 2,000 miles
[4] Every 4,000 miles
[10] Every 10,000 miles
[C] Conditional service
Lubricate front springs if squeaks develop

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CL Chassis Lubricant	HB Hydraulic Brake Fluid, Heavy-Duty SAE 70R3	MO Motor Oil	
EP Extreme Pressure Gear Lubricant	LM Lithium Grease	MP Multi-Purpose Gear Lubricant	
		SA Shock Absorber Fluid, Light	

HOOD RELEASE: Inside

PEUGEOT
1961-64 Model 404

TUNE-UP DATA
See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	55

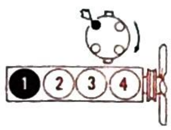
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 120-150*
* Maximum variation between cylinders must not exceed 10% of highest cylinder pressure

SPARK PLUGS
1961-63: AC 44F; Autolite AE6; Champion: L-8, L-10
1964: (Cylinder head marked on left front with "CL") AC C44XL; Autolite AG4; Champion N-5
Gap: .025"
Torque: 18-20 ft. lb.

IGNITION POINTS
S.E.V. or Ducellier
Gap: .016"
Dwell angle: 55°-59°

CONDENSER
S.E.V. or Ducellier
Capacity: .35 mfd

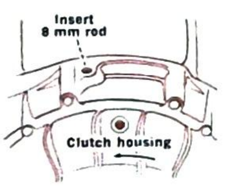
Cylinder Numbering Sequence



Firing Order: 1, 3, 4, 2

TIMING PROCEDURE
1. Insert a rod 8 mm (.314") in diameter into the hole on top of the clutch housing. A suitable rod is in the tool kit
2. Turn the engine by hand until the rod slips into a notch in the flywheel
3. Connect a 12-volt test lamp across the ignition points
4. Loosen the distributor clamp bolt and turn the distributor until the lamp indicates that the points have just opened. Tighten clamp and remove bar

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 11°

FUEL PUMP
S.E.V. model 46L-SR; AC model YK
Pressure: 1-3 lb. at idle rpm
Volume: ¾ pint per minute (minimum) at 2000 to 4000 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
SOLEX 1-bbl. 32PBICA	1-2

ENGINE IDLE SPEED
620 rpm

VALVE CLEARANCES
(engine cold, must be cooled for at least 6 hours)
Intake .004"; exhaust .010"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

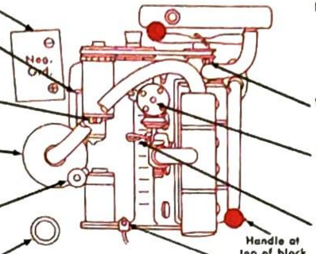
COOLING SYSTEM . . . . Quarts With Heater
All models 8½
Serial No. 4079240 and prior, nonpressurized system; after Serial No. 4079240, cooling system pressure, 4 pounds

Chek-Chart

CRANKCASE

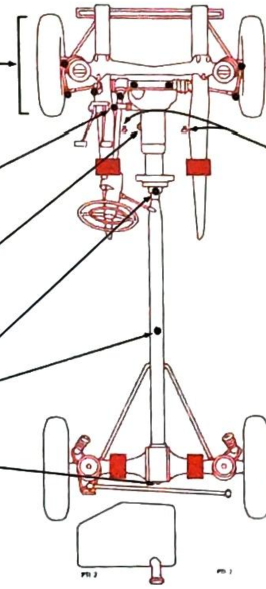
	"MS"	MO
Above +90°	40	20W-40
Above +32°	40,30	20W-40
Above +10°	30,20W	20W-40, 10W-30
Below +10°	10W	10W-30

CAPACITY (including oil filter) 4¼ quarts
DRAIN and REFILL
See Service Instructions, page 4



★ **Battery** . . . . . . Test and fill
★ **Oil Filter Metallic screen** . . . . Wash
Assemble with new gasket
4 **Generator** (oil cap) . . . . Sparingly MO
Air Cleaner Element . . . . Service
★ Oil bath . . . . Wash and fill MO
Oil Fill Cap . . . . . .
★ **Brake Master Cylinder** (cap) . . . . HB
Fill to level (NIVEAU) mark

Water Pump (oiler) . . . . Sparingly MO ★
Distributor
Wick under rotor . . . . Sparingly MO ★
Crankcase Dipstick . . . . Check level
Clutch Throwout Bearing (oil cup) . Sparingly MO ★



★ **Front Suspension and Steering Linkage** . . . . (8 fittings) CL
★ **Clutch Pedal** CL

TRANSMISSION . . . . 30,40 MO
90EP or MP may be used above +60°
★ Maintain level to fill plug hole
CAPACITY 3 pints
8 DRAIN and REFILL

★ **Universal Joint** CL
★ **Propeller Shaft Bearing** CL

DIFFERENTIAL . . . . 90 EP, MP
★ Maintain level to fill plug hole
CAPACITY 3½ pints
8 DRAIN and REFILL

GAS TANK . . . . . Gallons
All models 13¼

Front Wheel Bearings . . . . . . LM 10
½ ounce in dust cap. Do not remove hub

Windshield Wiper Shafts . . . Sparingly 10W MO ★

BRAKE ADJUSTMENT
With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated
Two square head brake adjusters are provided on each backing plate
Adjust the brakes as follows:
Front brakes
1. Rotate one adjuster in direction of forward wheel rotation until drum locks
2. Back off adjuster just enough for drum to turn freely
3. Repeat procedure at other adjuster
4. Repeat steps 1, 2 and 3 for other front wheel

Rear brakes
5. Proceed as above for forward adjusters; tighten rear adjusters in opposite direction

Bleeding sequence: RR, LR, RF, LF

TIRES

	Pressure	Front	Rear
Sedan: 165-380 or 5.90-15		20	23
Sedan: 6.50-15		20	23
Station wagon: 165-380 or Michelin X		20	30

4 Rotate tires, Method G or H, then balance wheels

■ Position for lift adapter
• Lubrication fitting
● Cooling system drain

KEY TO INTERVALS
★ Every 2,000 miles
4 Every 4,000 miles
8 Every 8,000 miles
10 Every 10,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS
CL Chassis Lubricant
EP Extreme Pressure Gear Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty SAE 70R3
LM Lithium Grease
MO Motor Oil
MP Multi-Purpose Gear Lubricant

PORSCHE

1951-64 All Models Except Carrera

HOOD RELEASE: Inside

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All 6-volt	19	84

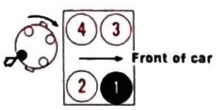
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 125

SPARK PLUGS
Bosch W225T1 or W225T7
Champion L-85
Gap: .020"-.024", except Bosch W225T7, .024"-.028"
Torque: 20 ft. lb.

IGNITION POINTS
Bosch
Gap: .016"
Dwell angle: 47°-53°

CONDENSER
Bosch
Capacity: .27-.32 mfd

Cylinder Numbering Sequence

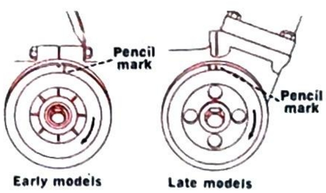


Firing Order: 1, 4, 3, 2

TIMING PROCEDURE

1. Place mark on pulley to right of notch as follows:
   Models 1600S-90, 1600SC, 3/32"; others, 1/4"
   Notch on pulley represents 0° BTDC
2. Turn pulley until mark is aligned with split in crankcase (early models) or mark on crankcase (late models)
3. Connect 6-volt test lamp to distributor primary terminal and to ground
4. Loosen distributor clamp screw and turn housing until points just open, as indicated by test lamp (to eliminate backlash final movement should be in counterclockwise direction)
5. Make certain that rotor points to notch in distributor housing rim. Tighten clamp screw securely

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
1600S-90, 1600SC, 3° (3/32" from notch)
Others, 5° (1/4" from notch)

FUEL PUMP
Solex
Pressure: 2 lb. at 1000-3000 rpm
Volume: 10 ounces per minute at 4500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
SOLEX	
Twin 1-bbl.	1½
Twin 2-bbl.	1½
ZENITH	
Twin 2-bbl.	1½

No choke valve. Accelerator pump used for cold starts

ENGINE IDLE SPEED
Normal engine, 700-800 rpm
Super engine, 700-900 rpm

VALVE CLEARANCES
(engine cold, not running)
Use clearance specified on fan cover

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

3 Steering Gear (plug) .... 90 HP
To reach, remove cover plate under front hood
Special tool required

★ Front Suspension and Steering Linkage .... (12 fittings) CL

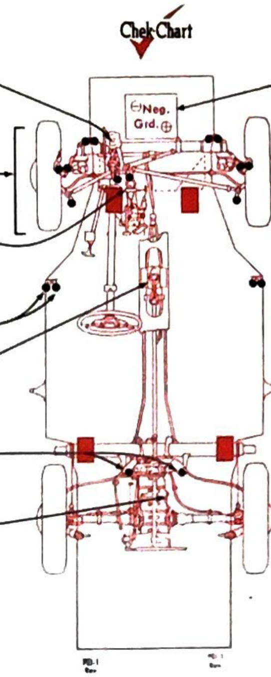
3 Brake Master Cylinder (cap) .... HB
Fill to 5/8-3/4 inch below top of reservoir
1951-63, to reach, remove cover plate under front hood
1964, reservoir under front hood

★ Door Hinges Both sides .... Sparingly CL

6 Gearshift Lever (inside car) .... MO
Press shift lever down, stretch rubber grommet and push oil can spout thru opening alongside lever. Lubricate with a few drops of oil

3 Parking Brake Cables .... Sparingly CL
Not on 1964

TRANSAXLE .... HP
Above +32°, 90; below +32°, 80
3 Maintain level to ½ inch below fill plug hole
CAPACITY 7⅜ pints
6 DRAIN and REFILL
Models prior to 1957 have 2 drain plugs



Battery .... Test and fill ★
Remove spare tire to service

Front Wheel Bearings .... Repack LM 18
1964, tighten adjusting nut until thrust washer can just be moved sideways with a screw driver

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated
Two adjusters are provided on each brake, reached through hole in brake drum, except disc brakes which are self-adjusting
Adjust the brakes as follows:

1. Raise car, remove hub caps, apply pedal firmly a few times, turn wheel until one adjuster is visible behind hole in drum
2. Turn each adjuster until the wheel can just be turned by hand
3. Back off each adjuster 5-6 teeth until drum revolves freely without drag
4. Depress pedal firmly a few times and recheck the adjustments
5. Repeat procedure at each wheel

Bleeding sequence (except disc brakes): RR, LR, RF upper, RF lower, LF upper, LF lower. Disc brakes: LR outer, LR inner, RR outer, RR inner, RF outer, RF inner, LF outer, LF inner

GAS TANK .... Gallons

1951-62	13¾*
1963	13¼*
1964	12½*

* Includes 1½ gallons reserve

TIRES .... Pressure	Front	Rear
5.00-16	20-21½*	21½-25*
5.60-15	18½	23
High-speed driving	21½	25½
5.60-15, Michelin X tires	16	18
High-speed driving	18	20
165-15 braced tread	23	26
High-speed driving	26	28

* Vary pressure depending on driving conditions

KEY TO INTERVALS

★ Every 1,500 miles
3 Every 3,000 miles
6 Every 6,000 miles
18 Every 18,000 miles
C Conditional service
Clean fuel pump strainer when necessary

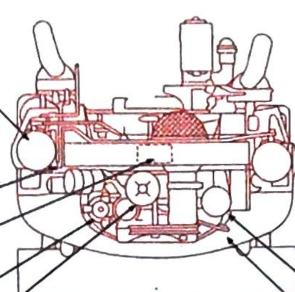
Air Cleaner Elements Both sides .... Service
★ Dry type .... Clean
6 Dry type .... Replace
3 Wire gauze .... Wash and oil MO

3 Carburetor Controls .... MO

6 Oil Strainer .... Clean
To reach, remove plate, bottom of crankcase

C Fuel Pump Strainer .... Clean

6 Oil Filter .... Replace
Add extra quart oil



CRANKCASE .... "MS" MO

Above +32°	30
Above −5°	20
Below −5°	10W

CAPACITY 3⅛ quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap

Crankcase Dipstick .... Check level

■ Position for lift adapter
• Lubrication fitting

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CL	Chassis Lubricant	HB	Hydraulic Brake Fluid, Heavy-Duty	LM	Lithium Grease
		HP	Hypoid Gear Lubricant	MO	Motor Oil

HOOD RELEASE: Handle on rear hood

RENAULT

1955-64 4CV (R.1062), Dauphine (R.1090, -1094), Gordini (R.1091), Dauphine 40 (R.1095), Caravelle (R.1092)

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
4CV, 1955-59 early Dauphine	18 (6-volt)	75
1959 late -64 Dauphine, Caravelle, Gordini	24	50

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
All 95-135
Maximum variation between cylinders, 15 psi

SPARK PLUGS

4CV, Dauphine: AC 45F; Autolite AE6, AE62; Champion L-10
Caravelle, Gordini: AC 44F; Autolite AE4; Champion L-7, L-10S
Gap: .020"
Torque: 12 ft. lb.

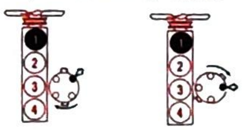
IGNITION POINTS

S.E.V. or Ducellier
Gap: .018"
Dwell angle: 54°-58° (56° preferred)

CONDENSER

S.E.V. or Ducellier
Capacity: .23 mfd

Cylinder Numbering Sequence



4CV — Dauphine, Caravelle, Gordini

Firing Order: 1, 3, 4, 2

TIMING PROCEDURE

1. Connect suitable test light to distributor primary terminal and to ground
2. Turn crankshaft pulley until notch is ⅛"* before pointer
3. Turn distributor housing until points just open, as indicated by test light
4. Lock distributor and turn pulley several times to recheck setting

* 4CV, Caravelle, Gordini, and early Dauphine models are timed as indicated in step 2. Late Dauphine models, after fabrication No. 49063-735300, are timed with notch aligned with pointer. Fabrication No. is found on firewall under front hood

Timing Mark and Setting

Timing Setting (Before Top Dead Center): Pulley notch ⅛" before pointer except late Dauphine, notch aligned with pointer

FUEL PUMP

S.E.V. type 46J, 46AJ
Pressure: 2-2½ lb. at approximately 1000 rpm
Volume: Approx. 1 pint in 1 minute at 1000 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.
SOLEX		
4CV 1-bbl. 22ICBT	2	manual
Dauphine 1-bbl. 28IBT	2	manual
Caravelle, Gordini 1-bbl. 32PIBT	2	manual
ZENITH		
1-bbl. 28IFT	2	index

ENGINE IDLE SPEED

600 rpm

VALVE CLEARANCES

(engine cold, not running)
Intake .006"; exhaust .008"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Steering Gear .... Sparingly CL
★ 1955-62
6 1963-64
Use low pressure. To reach fitting, remove spare tire on early Dauphine, metal panel on 4CV

★ **Front Suspension and Steering Linkage** .... (6 fittings) CL

★ **Pedal Shaft (plug)** CL
On late models. Remove rubber plug from under car

3 **Windshield Wiper Shafts** ... Sparingly 10W MO

TRANSAXLE .... 80 EP
If 80 grade is not available in warm weather, 90 may be used temporarily
3 Models with 3 plugs at bottom, remove center plug at bottom of differential case for checking level. Add lubricant thru fill plug until it runs out at level check plug, allow excess to drain before replacing plug
Models with 2 plugs at bottom, fill to lower edge of fill and level plug
CAPACITY With 3 plugs at bottom, 2¼ pints; 2 plugs, 3 pints
6 DRAIN and REFILL
Drain thru both plugs

6 **Rear Wheel Bearings** .... Sparingly WB
Use low pressure

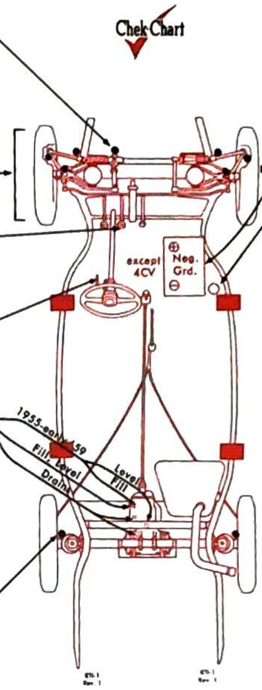
GAS TANK .... Gallons

4CV	7
Caravelle, Dauphine, Gordini	8½

TIRES .... Pressure

	Front	Rear
135-380 (5.0-15)	13	23
145-380 (5.5-15)	14	23

3 Rotate tires, Method G, then balance wheels



Front Wheel Bearings .... Repack WB 6
Tighten adjusting nut until wheel drags slightly, just so nut washer can be moved with screw driver, insert cotter pin

Battery .... Test and fill ★
Fill to ½ inch above plates

Brake Master Cylinder (cap) .... HB ★
Reach from luggage compartment. 4CV, left side
Fill to "Maximum" mark

BRAKE ADJUSTMENT

All except late Dauphine:
With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated
Two adjustment cams are provided on each backing plate
Adjust the brakes as follows:

1. While revolving the wheel in direction of forward rotation turn forward cam counterclockwise until shoe contacts drum
2. Back off adjustment until drag is just eliminated
3. Adjust rearward cam in same manner except revolve wheel in direction of reverse rotation and turn cam clockwise to expand shoe
4. Repeat steps 1, 2 and 3 at each wheel

Late Dauphine:
Self-adjusting disc brakes are used on all wheels. No adjustment is required. Replace pads when total thickness (including metal portion) is .217" minimum
Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ 1955-62, Every 1,500 miles
1963-64, Every 3,000 miles
3 Every 3,000 miles
6 Every 6,000 miles
12 Every 12,000 miles

CRANKCASE .... "MS" MO

Above +32°	20W	10W-30
Above +10°	10W	10W-30
Below +10°	...	5W-20

CAPACITY 4CV, 2 quarts; Caravelle, Dauphine, Gordini, 2½ quarts
DRAIN and REFILL
See Service Instructions, page 4

3 **Heater Filter Screen** .... Clean
Blow element with air gun

COOLING SYSTEM .... Quarts With Heater

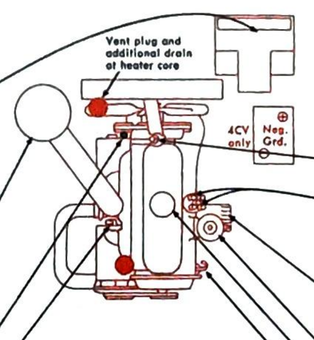
4CV	5½
Caravelle, Dauphine, Gordini	5

Cooling system pressure, 4 pounds

Air Cleaner Element .... Service
3 Oil bath section .... Wash and fill MO
Crankcase grade. Fill to level mark
3 Oil-wetted section .... Wash and oil MO
6 Dry type .... Clean
12 Dry type .... Replace

★ **Fan Belt Tensioner Pulley** .... Sparingly WB
Late models, no lubrication

3 **Generator (plug)** .... Sparingly MO
Models with 12-volt battery, no lubrication



Position for lift adapter
Lubrication fitting
Cooling system drain

Water Pump (plug or fitting) ..... Sparingly WP 12
Late models, no lubrication

Distributor
Cam bearing (wick under rotor). Sparingly MO 3
Cam lubricator (wick) .... Sparingly MO 3
On 1955-59 only

Oil Filter .... Replace 6
Add extra pint oil
On late models

Fuel Pump Filter Screen .... Clean 6

Oil Fill Cap

Crankcase Dipstick .... Check level

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CL Chassis Lubricant	HB Hydraulic Brake Fluid, Heavy-Duty	WB Wheel Bearing Grease
EP Extreme Pressure Gear Lubricant	MO Motor Oil	WP Water Pump Grease

RENAULT

1963-64 Caravelle "S" (R.1131); R-8 (R.1130)

Caravelle "S" R-8

HOOD RELEASE: Button on rear hood

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
Caravelle "S"	24	40, 50
R-8	22NL	40, 50

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
Caravelle "S" 105-155*
R-8 ....100-145*
* Permissible variation between cylinders, 15 psi

SPARK PLUGS

Caravelle "S": AC 43F; Bosch W225T1; Champion J-6, H-8, H-88; Marchal 34-S
R-8: AC 44F; Bosch W175T1; Champion H-8, H-88; Marchal 35
Gap: .025"-.028"
Torque: 10-15 ft. lb.

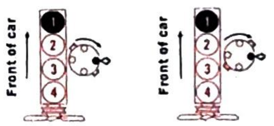
IGNITION POINTS

S.E.V. or Ducellier
Gap: .016"-.020"
Dwell angle: 54°-58° (56° preferred)

CONDENSER

S.E.V. or Ducellier
Capacity: .23 mfd

Cylinder Numbering Sequence



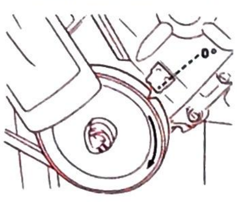
S.E.V. Ducellier

Firing Order: 1, 3, 4, 2

TIMING PROCEDURE

1. Connect 12-volt test lamp to distributor primary terminal and to ground
2. Bring number 4 piston (nearest rear of car) to TDC position, as indicated by notch in pulley being aligned with 0° tooth of stationary marker
3. Turn distributor housing until points just open, as indicated by test lamp
4. Final movement of distributor housing must be in counterclockwise direction to eliminate backlash
5. Tighten distributor clamp screw and rotate pulley two complete turns to recheck accuracy of setting

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
All, 0° (TDC)

FUEL PUMP

S.E.V. model 46AV
Pressure: 2-2½ lb. at 1000 rpm
Volume: 1 pint in 1 minute at 1000 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches)
SOLEX		
1-bbl. 32PDIST	2	index
ZENITH		
1-bbl. 32IGT	2	index
1-bbl. 34IGT	2	index

ENGINE IDLE SPEED

600 rpm

VALVE CLEARANCES

(engine cold, not running)
Intake .005"; exhaust .008"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

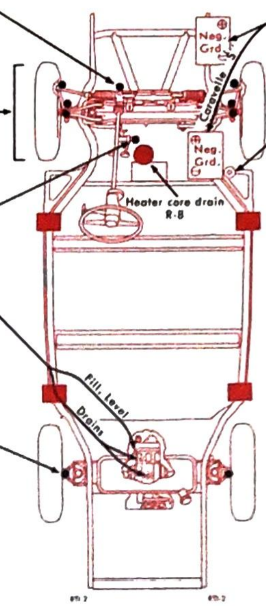
★ Steering Gear ....Sparingly **CL**
Use low pressure. Inspect rubber boots for damage. To reach fitting, remove spare tire, or use long nozzle from left side

★ Front Suspension and Steering Linkage ....(6 fittings) **CL**

★ Pedal Shaft ....**CL**
Remove rubber plug to reach

TRANSAXLE ....80 **EP**
If 80 is not available in warm weather, 90 may be used temporarily
★ Maintain level to fill plug hole
CAPACITY 3 pints
6 DRAIN and REFILL
To drain, remove 2 bottom plugs

12 Rear Wheel Bearings..........Sparingly **WB**
Use low pressure



Battery.........................Test and fill ★

Front Wheel Bearings...........Repack **WB** 6

Brake Fluid Reservoir (cap)..............**HB** ★
Maintain level to "Maximum" mark on reservoir
Reach from luggage compartment

BRAKE ADJUSTMENT

Self-adjusting disc brakes are used on all wheels. No adjustment is required. It is recommended that all brake pads (2 per wheel) be inspected at regular intervals. Replace pads when total thickness (including metal portion) is .217" minimum
Bleeding sequence: RR, LR, RF, LF To permit bubbles to rise to highest point in caliper pistons, wheels must be hanging free of ground. When bleeding front wheels, repeatedly turn wheels to extreme left and right lock positions

GAS TANK ....Gallons
All models 7½

KEY TO INTERVALS

★ Every 3,000 miles
6 Every 6,000 miles
12 Every 12,000 miles

TIRES..........Pressure Front Rear
135-380; 145-380* (5.5-15)........ 14 23-25
* Includes Michelin X tire
★ Rotate tires, Method G

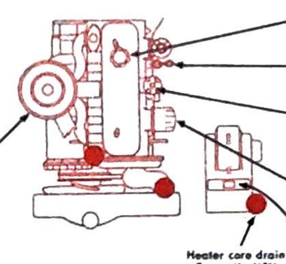
CRANKCASE..............."MS" **MO**
Above +10° 10W-30
Below +10° 5W-20
CAPACITY (without filter) 2.65 quarts; (with filter) 3 quarts
DRAIN and REFILL
See Service Instructions, page 4

COOLING SYSTEM ....Quarts

	With Heater
Caravelle "S"	5½
R-8	6

Cooling system pressure: Sealed system. Special 9-lb. valve located in expansion tank. No regular checking required. Permanent (anti-freeze) coolant installed by manufacturer

Air Cleaner Element..............Service
6 Dry type ....Clean
12 Dry type ....Replace



Oil Fill Cap

Crankcase Dipstick..............Check level

Distributor
Wick under rotor..........Sparingly **MO** ★

Oil Filter ....Replace 6

Heater Filter Screen.................Clean 6
Caravelle "S" only. Blow element with air gun

■ Position for lift adapter
• Lubrication fitting
● Cooling system drain

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CL Chassis Lubricant
EP Extreme Pressure Gear Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
MO Motor Oil
WB Wheel Bearing Grease

SAAB

1956-64 93, 93B, 93F, 95, 96, GT-750, GT-850

1956-60

1961-64

HOOD RELEASE: Inside

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	Special	34

COMPRESSION PRESSURE

(at cranking speed with throttle open)	psi
93, 93B	97-115
93F, 95, 96	100-115
GT-750, GT-850	115-125

SPARK PLUGS

Low speeds, Bosch M175T1
Normal driving, Champion UK-10
GT-850 only, Champion UK-16V
Gap: .024"-.028", ex. GT-850, nonadjustable surface gap used
Torque: 28 ft. lb.

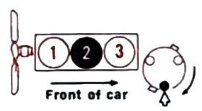
IGNITION POINTS

Bosch
Gap: .012"-.016"
Dwell angle: 77°-83°

CONDENSER

Bosch
Capacity: .26 mfd

Cylinder Numbering Sequence

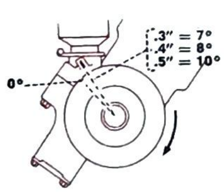


Firing Order: 1, 2, 3

TIMING PROCEDURE

1. Remove spark plugs
2. Loosen distributor clamp screw
3. Connect 12-volt test lamp to distributor primary terminal and to ground
4. Models 93, 93B, 93F; place mark on pulley .4" clockwise of notch and align with mark on engine block. This setting is 8° BTDC position for No. 2 piston
   Models 95, 96, GT-850; place mark on pulley .5" clockwise of notch and align with mark on engine block. This setting is 10° BTDC position for No. 2 piston
   Model GT-750 align pulley notch with mark on engine block. This setting is TDC position for No. 2 piston
5. Turn distributor housing counterclockwise until test lamp just goes on
6. Lock distributor clamp screw securely

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
93, 93B, 93F, 8°; 95, 96 (without vacuum advance), 10°; 95, 96 (with vacuum advance), 7°; GT-750, 0°; GT-850, 10°

FUEL PUMP

S.U. electric model L; Bendix electric
Pressure: Pump must push fuel to a height of 20"
Volume: 16 ounces in 1 minute or less

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
SOLEX	
1-bbl. 40 AI	2
Triple 1-bbl. 34 BIC	2
ZENITH	
1-bbl. 34 VNN	2

Preheating tube should be connected to air cleaner inlet during cold weather

ENGINE IDLE SPEED

700-800 rpm

VALVE CLEARANCES

None. Two-stroke cycle engine is used in all models

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater
All models	8

Cooling system pressure, 4 pounds

ENGINE OIL RESERVOIR ..... TO

GT-850 only
Check level on sight gage when refueling
CAPACITY 3 quarts

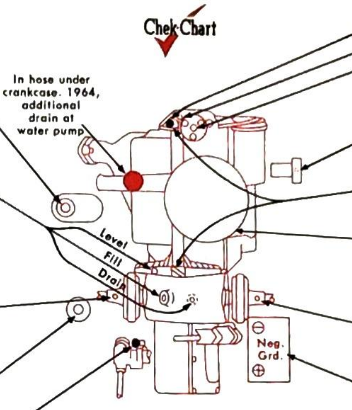
TRANSAXLE .... MP

Above +32°, 90; below +32°, 80
[★] Maintain level to level plug hole
CAPACITY 1956-62, 4 pints; 1963-64, 3 pints
[8] DRAIN and REFILL

[★] **Inner Drive Shaft** (oil hole) .... 10W MO
Sparingly

[★] **Brake Fluid Reservoir** (cap) .... HB
Fill to ½ inch below top of reservoir

[★] **Steering Gear** CL



Distributor
Drive gear (except GT-850) .... CL [★]
Drive shaft (oil cup) .... 40 MO [★]
Shaft (under rotor) .... Sparingly 40 MO [8]
Cam assembly (felt pad) ...... Sparingly BR [8]

Fuel Pump Screen .... Clean [8]

Fan Shaft Bearings .... Repack BR [16]

Air Cleaner Element .... Service
Dry type .... Replace [20]
Oil-wetted .... Wash and oil MO [★]

Inner Drive Shaft (oil hole) .... 10W MO [★]
Sparingly

Battery .... Test and fill [★]

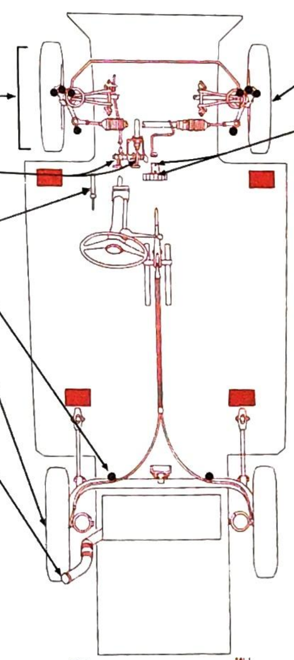
[★] **Front Suspension, Universal Joints and Steering Linkage** .... (8 fittings) CL

[★] **Clutch and Brake Pedals** (2 oil holes) .. 10W MO
Reach from inside car

[8] **Speedometer Cable** .... Sparingly 10W MO

[★] **Hand Brake Cables** CL
On 93, 93B only

[32] **Rear Wheel Bearings** .... Repack BR



Front Wheel Bearings .... Repack WB [24]

Heater Fan Motor Bearings .... 10W MO [16]
Necessary to remove motor to oil bearings

ENGINE LUBRICATION, Without Reservoir

Lubricating oil is mixed with the gasoline when refueling, as follows:

All models, ex. GT-850 ..... TO or 30 "MS" MO
Pour **1 quart** oil in tank, then add **7 to 8 gallons** of gasoline. Premium gasoline is recommended for Model GT-750

Below +32°, to facilitate complete blending of oil and gasoline, predilute cold oil with gasoline in 1-to-1 ratio before pouring into tank. Use mixture ratios as shown above

Model GT-850, do not put oil in fuel tank

FUEL TANK .... Gallons

93, 93B, 93F, GT-750*	9½◆
95	11½◆
96	10½◆
GT-850*	10½

* Use premium grade gasoline
◆See ENGINE LUBRICATION Instruction

TIRES

Pressure	Front	Rear
5.00-15	26	20-24*
5.20-15	26	20-24*
5.60-15	23	20-26*
155-15	22-24*	21-23*

* Depending on load and speed

[8] Rotate tires, Method F, then balance wheels

■ Position for lift adapter
• Lubrication fitting
● Cooling system drain

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated
GT-850 has self-adjusting disc brakes on front
1964 models have self-adjusting brakes front and rear
Two slot-head adjustment screws are used on each front brake, one slot-head adjustment screw on each rear brake

Adjust the brakes as follows:

1. If there is no adjustment hole in drum, remove one lug bolt from each wheel. Late models, rear brake adjusts from backing plate
2. Rotate wheel until lug bolt hole or adjustment hole aligns with adjustment screw
3. Turn adjusting screw clockwise until drum is locked and cannot be turned by hand
4. Back off adjustment screw one or more notches until drum turns freely without drag
5. Repeat steps 2, 3 and 4 for second adjustment screw
6. Repeat procedure at each wheel
7. Replace lug bolts securely

Bleeding sequence: LR, RR, RF, LF

KEY TO INTERVALS

[★] Every 2,000 miles
[8] Every 8,000 miles
[16] Every 16,000 miles
[20] Every 20,000 miles
[24] Every 24,000 miles
[32] Every 32,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

BR Ball and Roller Bearing Lubricant
CL Chassis Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty SAE 70R3
MO Motor Oil
MP Multi-Purpose Gear Lubricant
TO Saab Two-Cycle Motor Oil
WB Wheel Bearing Grease

SIMCA

1956-61 All Aronde Models
1962-63 Simca 5

DeLuxe, Super DeLuxe Chatelaine, Ranch — Grand Large, Monaco Elysee, Etoile, Montlhery — Plein Ciel, Oceane — Simca 5

HOOD RELEASE: Front, except Plein Ciel and Oceane, inside

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1956-61 Aronde	27SL	50
1962-63 Simca 5	24	55

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi

Flash engine 135-150*
Flash Special engine 150-160*
Rush Super engine 155-170**
* Maximum variation between cylinders, 15 psi
** Maximum variation between cylinders, 20 psi

SPARK PLUGS

Champion, H-8; Marchal: Flash engs., 36; Rush Super eng., 35
Gap: .024"-.025"
Torque: 18-22 ft. lb.

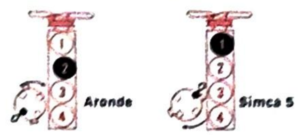
IGNITION POINTS

S.E.V., Ducellier
Gap: .017"-.019"
Dwell angle: 55°-57°

CONDENSER

S.E.V., Ducellier
Capacity: .28 mfd

Cylinder Numbering Sequence



Firing Order: 1, 3, 4, 2

TIMING PROCEDURE

Simca 5 (Rush Super engine):
1. Connect timing light to No. 1 spark plug or distributor cap tower
2. Run engine at idle rpm and turn distributor to obtain alignment of correct pulley notch with pointer

Other engines:
Accurate timing is possible only when using Simca Top Dead Center Gauge Tool 7313-T
1. Turn engine until distributor rotor is in position to fire No. 2 cylinder
2. With tool inserted in No. 2 spark plug hole, piston is accurately brought to TDC by slowly moving car backward and forward in 4th gear until gauge pointer reaches extreme upper position. This is TDC, note this position on gauge
3. Push car backward about 1 ft., then forward until pointer indicates 1½* marks before TDC position previously observed
4. Turn distributor until points just open as indicated by light in tool

* Flash Special engine is timed at TDC

Timing Mark and Setting

Simca 5

Timing Setting (Before Top Dead Center): Flash and Rush Super engines, 4°; Flash Special engine, 0°

FUEL PUMP

S.E.V.
Pressure: Flash engs. 1-2½ lb.; Rush Super eng. 2-3½ lb.; at 1000 rpm
Volume: Minimum of 1 pint per minute at idle rpm

CARBURETOR ADJUSTMENT

SOLEX	Idle Mixture (initial turns)	Choke (notches) Man. Trans.
1-bbl. 32PBICT	2-3	index
1-bbl. 32PBIC	2-3	index*
1-bbl. 34PBIC	2-3	manual

* Some models, manual

ENGINE IDLE SPEED

550 rpm

VALVE CLEARANCES

(engine cold) intake .004"; exhaust .006"
(engine hot) intake .008"; exhaust .010"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	7½	6½

Cooling system pressure, 4 pounds

CRANKCASE .... "MS" MO

Above +32°	30	20W-40
Above +10°	20W	10W-30, 20W-40
Above −10°	10W	10W-30, 5W-20
Below −10°	5W	5W-20

CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

[20] Oil Filter 1962-63 .... Clean
Remove cover to clean; replace "O" ring

[★] Steering Gear (plug) .... MP, GL4
Above +20°, 80; below +20°, 75

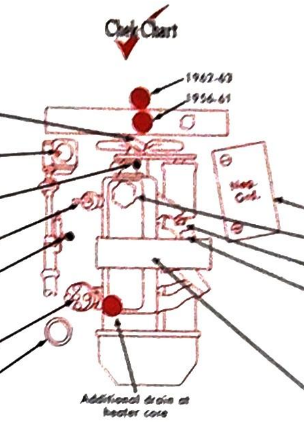
[★] Water Pump .... WP
Use low pressure

Crankcase Dipstick .... Check level

[★] Gearshift Control Cable CL
Some models, no lubrication

[3] Distributor
Wick under rotor .... MO

[★] Brake Supply Tank (cap) .... HB
Fill to "Maximum" mark on tank



Battery .... Test and fill [★]

Oil Fill Cap

Generator (oil hole) .... MO [3]

Oil Filter Screen 1956-61 .... Wash [3]
When changing crankcase oil, remove entire filter assembly and copper seal by unscrewing large hex nut. Do not unscrew smaller hex nut cap covering oil pressure regulator screw. Separate two filter screens, wash in solvent and reassemble. Replace copper seal at every service interval

Air Cleaner Element .... Service
Dry type .... Clean [6]
Dry type .... Replace [12]
Oil bath .... Wash and fill MO [3]

[★] Front Suspension and Steering Linkage .... (16 fittings) CL
Use low pressure, except Simca 5

[★] Clutch Pedal CL

[★] Parking Brake Pull Rod Shaft .... Coat WG
1962-63, right side of steering column

TRANSMISSION .... MP, GL4

Above +20°, 80; below +20°, 75
[★] Maintain level to fill plug hole
CAPACITY 2¼ pints
[10] DRAIN and REFILL

[★] Parking Brake Cable Pulley .... MO

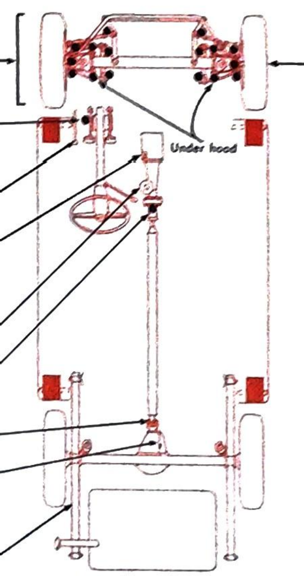
[★] Universal Joint Spline CL

[20] Universal Joint .... Repack WB

DIFFERENTIAL .... MP, GL4

Above +20°, 90; above −20°, 80; below −20°, 75
[★] Maintain level to fill plug hole
CAPACITY 2 pints
[10] DRAIN and REFILL

[★] Rear Springs .... PO



Front Wheel Bearings .... Check WB [10]
Clean and repack if necessary

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated
Two square head adjustment cams are provided on each backing plate
Adjust the brakes as follows:
1. Depress brake pedal firmly and block in this position (Simca tool No. C-886)
2. Turn forward adjustment cam in direction of forward wheel rotation until cam is felt to touch brake shoe. Use suitable socket and long extension bar which will reach to tread of tire at point nearest adjustment cam (Simca tool No. S-51)
3. Lift extension bar just enough to eliminate free play on adjustment cam. Carefully mark position of extension bar on tire tread
4. Measure exactly 2⅜" above this point on tire tread and make second mark on tread
5. Slowly raise extension handle until it aligns with upper mark on tire tread
6. Repeat step 2 for rear adjustment cam but turn cam in direction of rearward wheel rotation. Repeat steps 3 thru 5
7. Repeat steps 2 thru 6 for each wheel
8. Release brake pedal

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

[★] Every 1,000 miles
[3] Every 3,000 miles
[6] Every 6,000 miles
[8] Every 8,000 miles
[10] Every 10,000 miles
[12] Every 12,000 miles
[20] Every 20,000 miles
[30] Every 30,000 miles

GAS TANK .... Gallons

All models 11

TIRES

	Pressure Front	Rear
5.60-14	21	23
5.75-15	23	40

[6] Rotate tires, Method E, then balance wheels

Position for lift adapter
Lubrication fitting
Cooling system drain

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CL Chassis Lubricant
GL4 Multipurpose-Type Gear Lubricant API Service GL4
HB Hydraulic Brake Fluid, Heavy-Duty
MO Motor Oil
MP Multi-Purpose Gear Lubricant
PO Penetrating Oil
WB Wheel Bearing Grease
WG White Waterproof Grease
WP Water Pump Grease

SIMCA

1962-64 1000

HOOD RELEASE: Lever on rear hood under instrument panel

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	40

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi

All 150-160

SPARK PLUGS

AC 44XL; Champion N4; Lodge HLN; Marchal 35HS; Marelli CW240L
Gap: .024"
Torque: 18-21 ft. lb.

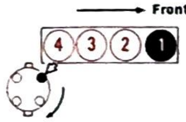
IGNITION POINTS

Ducellier or S.E.V.
Gap: .018"-.021"
Dwell angle: 55°-57°

CONDENSER

Ducellier or S.E.V.
Capacity: .20-.30 mfd

Cylinder Numbering Sequence

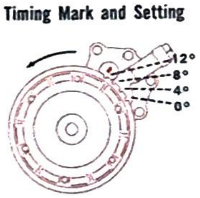


Firing Order: 1, 3, 4, 2

TIMING PROCEDURE

1. Slowly turn crankshaft pulley in direction of normal rotation (counterclockwise) until 12° notch on pulley rim is aligned with pointer on oil pump housing
2. Connect 12-volt test lamp to distributor primary terminal and to ground
3. Loosen distributor clamp screw and turn distributor housing until points just open, as indicated by test lamp. To avoid backlash, make final movement of distributor in counterclockwise direction
4. Check accuracy of setting by turning pulley two complete revolutions, noting the position of the notch when the points start to open

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 12°

FUEL PUMP

S.E.V.
Pressure: 1-2 lb. at 1000 rpm
Volume: 1 pint per 1 minute at idle rpm

CARBURETOR ADJUSTMENT

SOLEX	Idle Mixture (initial turns)
1-bbl. 32PBIC	1¼

ENGINE IDLE SPEED

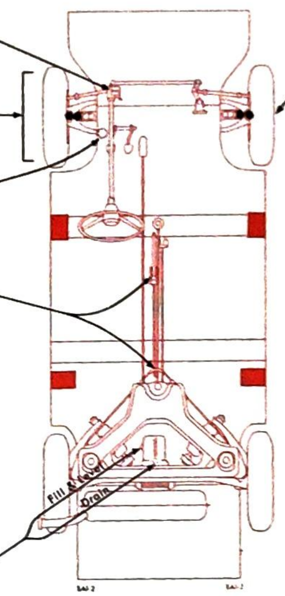
600 rpm

VALVE CLEARANCES

(engine hot, not running)
Intake .014"; exhaust .014"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart



★ **Steering Gear** (plug)..........80 or 90 **MP**
To reach, remove plate in luggage compartment

12 **Front Suspension**............(4 fittings) **CL**

★ **Brake and Clutch Fluid Reservoir** (cap)......**HB**
Maintain level to upper mark on reservoir
Located in luggage compartment

★ **Hand Brake Linkage**...................**MO**

GAS TANK..................Gallons
All models 9½

TIRES...........Pressure Front Rear
5.60-12 .... 15 24*
*With 5 passengers, 25½
★ Rotate tires, Method I

TRANSAXLE.................90 **MP**
★ Maintain level ½" below plug hole
CAPACITY approx. 4 pints
12 DRAIN and REFILL

Front Wheel Bearings............Repack **WB** 30
To adjust bearings, tighten nut to 11 ft. lb. Back off ½ turn on nut and retighten by hand pressure until minimum end play is obtained. Using suitable round tip punch, indent edge of adjusting nut into groove in spindle shaft

BRAKE ADJUSTMENT

With the brakes cold, if the pedal can be depressed more than 3", the need for adjustment is indicated. Two adjustment cams are provided on each backing plate. To tighten, turn both front brake cams and rear brake front cam in direction of forward wheel rotation. Tighten rear brake cam in opposite direction

Adjust the brakes as follows:

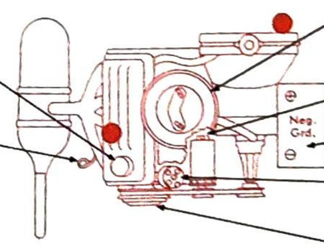
1. Turn one adjustment cam until heavy drag is felt when wheel is turned
2. Slowly back off cam until no drag is felt
3. Repeat steps 1 and 2 for other adjustment cam
4. Repeat steps 1, 2 and 3 for each brake

Bleeding sequence: RR, LR, RF, LF

Note: In case it is difficult to completely bleed hydraulic system, raise front end of car until master cylinder is horizontal, observing caution that brake fluid in reservoir does not spill over in luggage compartment

KEY TO INTERVALS

★ Every 6,000 miles
12 Every 12,000 miles
30 Every 30,000 miles
C Conditional service
Replace dry type air cleaner element if cleaning does not restore efficiency



COOLING SYSTEM.........Quarts
With Heater
All models 5¾

Oil Fill Cap...........................

Crankcase Dipstick.............Check level

CRANKCASE..............."MS" **MO**
Above +14° 20W-40
Below +14° 10W-30
CAPACITY 2¾ quarts
DRAIN and REFILL
See Service Instructions, page 4

Air Cleaner Element...............Service
Dry type ....Clean ★
Dry type ....Replace C

Generator (oil cup)...........Sparingly **MO** ★

Battery.......................Test and fill ★

Distributor
Wick under rotor..........Sparingly **MO** ★

Oil Filter ....Clean 30
To clean, remove pressed on cover by screwing two bolts into two threaded holes in cover. Replace "O" ring. Service more often if operating conditions are severe

■ Position for lift adapter
• Lubrication fitting
● Cooling system drain

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CL Chassis Lubricant	**HB** Hydraulic Brake Fluid, Heavy-Duty SAE 70R3	**MO** Motor Oil	**MP** Multi-Purpose Gear Lubricant
WB Wheel Bearing Grease			

SUNBEAM

1959-64 Alpine Series I, II, III
1956-62 Rapier, Rapier Series II, III, IIIA

HOOD RELEASE: Alpine, inside; Rapier, outside

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	29H	57

COMPRESSION PRESSURE

(at cranking speed with throttle open) — psi

Rapier, Rapier Series II 140-150
Alpine Series I, Rapier Series III 170-180
Alpine Series II, III, Rapier Series IIIA ... 165-175

SPARK PLUGS

Champion N-4; high-speed driving, N-3
Gap: .025"
Torque: 18 ft. lb.

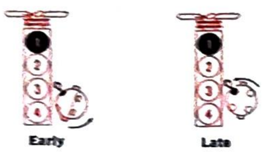
IGNITION POINTS

Lucas
Gap: .016"
Dwell angle: 57°-63°

CONDENSER

Lucas
Capacity: .20 mfd

Cylinder Numbering Sequence



Firing Order: 1, 3, 4, 2

TIMING PROCEDURE

1. Place mark on crankshaft pulley according to timing setting desired. (Alpine Series III, 8.5 mm on pulley equals 9°, 10 mm equals 11°; others, 6 mm equals 5°, 9 mm equals 7°, 10 mm equals 8°, 12 mm equals 10°)
2. Center distributor vernier control
3. Bring engine to operating temperature
4. Connect timing light to No. 1 spark plug or distributor cap tower, set idle speed to 600 rpm
5. Observe previously installed timing mark on pulley and turn distributor to obtain close alignment of mark with pointer on cover. Make final exact setting using vernier control
6. Reset to proper idle speed

Note: Additional performance may be attained by altering timing with distributor vernier control to obtain maximum acceleration from 20 to 50 mph in 4th gear. Spark knock must be avoided and use of premium fuel is recommended (One complete turn of vernier control knob alters timing 3°)

Timing Mark and Setting

Timing Setting (Before Top Dead Center):
Alpine Series III, 9°-11°; Others, 5°-7°
Optional 8.4:1 low-compression engine, 8°-10°

FUEL PUMP

AC type UG
Pressure: 1½-2½ lb. at cranking speed
Volume: 1 pint in 1 minute at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
STROMBERG	
1-bbl. DIF36	¾
ZENITH	
Twin 1-bbl.: 36VIP, -W1A, -W1A2, -W1A3, -W1P2, -W1P3	¾

ENGINE IDLE SPEED

600-800 rpm

VALVE CLEARANCES

(engine hot, not running)
Intake .012"; exhaust .014"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts With Heater

Alpine Series I, II 9
Alpine Series III 7½
Rapier 7½
Cooling system pressure, 6¼-7¼ pounds

Air Cleaner Elements .... Service
[★] Dry type .... Clean
[12] Dry type .... Replace
[3] Oil bath .... Wash and fill MO
[12] Wire gauze .... Wash and oil MO

[12] **Generator** (oil hole) .... MO

[★] **Battery** Rapier .... Test and fill

[3] **Steering Gear** (rubber plug or fittings) ...... EP
Above +10°, 140; below +10°, 90
Early models, 2 or 3 fittings; late, rubber plug
With fittings, to lubricate, turn wheels fully to right

[★] **Brake Master Cylinder** (cap) .... HB
Fill to ½ inch below top of fill hole

[★] **Clutch Master Cylinder** (cap) .... HB
Fill to ½ inch below top of fill hole

[★] **Front Suspension and Steering Linkage** .... (11 to 21 fittings) LM

TRANSMISSION .... "MS" MO

Above -10°, 30; below -10°, 20,20W
[★] Maintain level to upper mark on dipstick, except late Rapier and Alpine Series III, to bottom edge of fill plug opening
Reach dipstick thru floor. Alpine Series III, reach fill plug through opening in right side of floor
CAPACITY 3¼ pints; with overdrive, 4¾ pints
[6] **DRAIN and REFILL**
Overdrive, drain thru separate plug near left side, fill slowly thru transmission
Before draining, operate switch 10 to 12 times with ignition ON and 4th gear engaged

[6] **Overdrive Oil Pump Filter Screen** .... Clean
Remove plate on left side to reach screen

[★] **Universal Joints** .... 140 EP or LM
Use low pressure. Alpine Series III, no lubrication

[★] **Hand Brake Cable** .... LM
Alpine Series III, no lubrication

[★] **Battery** Alpine .... Test and fill

DIFFERENTIAL .... EP

Hypoid: Above -10°, 90; below -10°, 80
Spiral Bevel: Above +32°, 140; above -10°, 90; below -10°, 80
[★] Maintain level to fill plug hole
CAPACITY 2 pints
[6] **DRAIN and REFILL**

[12] **Rear Shock Absorbers** .... SA
On export model Alpine Series I, II. Remove to service
Fill to bottom of filler hole threads while moving arm thru full strokes

GAS TANK .... Gallons

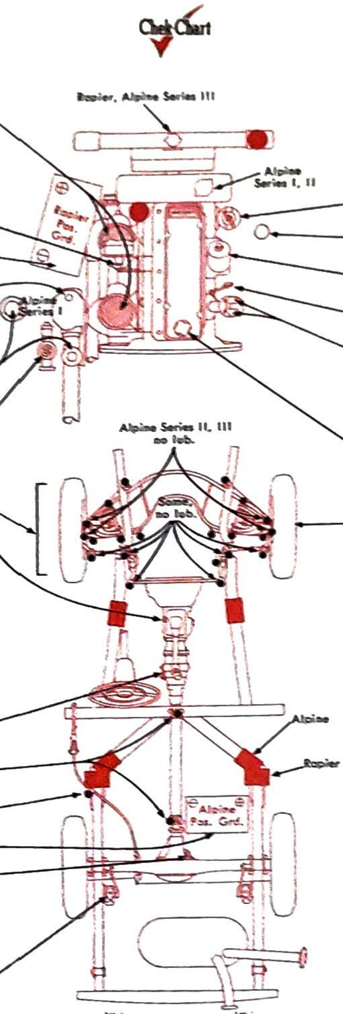
Alpine Series I, II 10¾
Alpine Series III 13¼
Rapier 12

TIRES

Pressure	Front	Rear
Alpine: 5.60-13	22•	23•
Normal fast driving	25	27
5.90-13, 6.00-13	24•	24•▲
Normal fast driving	24	25
Rapier: 5.60-15	24◆	25■

• 5.60-13 or RS.5 tires: For prolonged fast touring, add 6 pounds
▲ Prolonged fast touring, 26
◆ High speed, add 6 pounds
■ Full load, 26

[3] Rotate tires, Method B or G, then balance wheels



Position for lift adapter
• Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO

	"MS"	MO
Above +70°	30	20W-40
Above +20°	20,20W	10W-30
Above +5°	10W	10W-30
Below +5°	..	5W-20

CAPACITY (including oil filter) 4¼ quarts
DRAIN and REFILL
See Service Instructions, page 4

Fuel Strainer .... Clean [6]
Power Brake Breather Element .... Clean [6]
Oil Filter .... Replace [6]
Crankcase Dipstick .... Check level
Distributor
Cam bearing (under rotor) .. Sparingly 30 MO [3]
Advance mechanism .... 30 MO [3]
Lubricate sparingly thru hole around shaft
Oil Fill Cap

Front Wheel Bearings .... Repack LM [12]
Initial torque, 15-20 ft. lb.; then adjust bearings to .002"-.007" end play

BRAKE ADJUSTMENT

Alpine, Rapier Series III, IIIA, self-adjusting disc brakes on front wheels, no adjustment required
Rapier drum brakes:

1. Remove wheel cover to expose adjustment hole in wheel and drum. If holes are not aligned, reposition wheel on drum
2. Turn wheel until adjustment hole aligns with slotted head adjustment cam
3. With screw driver, turn adjustment cam clockwise until shoes are locked against drum
4. Apply pedal firmly, make sure drum remains locked. If drum frees after brake application expand shoes until drum remains locked
5. Back off adjuster one notch, two notches if necessary, so drum turns freely without drag

Alpine rear drum brakes have a square head adjuster on each backing plate:

1. Turn adjuster clockwise until shoes are locked against drum
2. Apply pedal firmly, make sure drum remains locked. If drum frees after brake application expand shoes until drum remains locked
3. Back off adjuster until drum turns freely (usually two clicks)
   Note: A slight drag may be felt from trailing shoe but should not be sufficient to prevent wheel from being turned by hand
4. Spin wheel, apply pedal firmly to center shoes. Recheck adjustment

Bleeding sequence: LR, RR, RF, LF
Note: Rapier with disc brakes on front, bleed inner valve first

KEY TO INTERVALS

[★] **Every 1,000 miles**
Alpine Series III: Every 3,000 miles
[3] **Every 3,000 miles**
[6] **Every 6,000 miles**
[12] **Every 12,000 miles**

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

EP Mild Extreme Pressure Gear Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty SAE 70R3
LM Lithium Grease
MO Motor Oil
SA Shock Absorber Fluid, Light

TRIUMPH

1954-64 TR2, TR3, TR3-A, -B, TR4

HOOD RELEASE: Inside, TR4 and early TR2; all others, at front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	29H	57

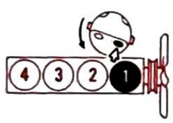
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 120
Maximum variation between cylinders, 5 psi

SPARK PLUGS
Champion L-7*; Lodge CNY*
Gap: TR2, .032"; TR3, -3-A, -B, TR4, .025"
Torque: 25 ft. lb.
*For high-speed driving: L-5 or L-11S; HN or 2-HN

IGNITION POINTS
Lucas
Gap: .015"
Dwell angle: 57°-63°

CONDENSER
Lucas
Capacity: .2 mfd

Cylinder Numbering Sequence

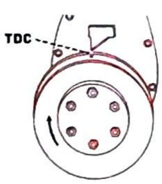


Firing Order: 1, 3, 4, 2

TIMING PROCEDURE
1. Set No. 1 piston at TDC (hole in crankshaft pulley aligned with pointer)
2. Fully retard micrometer vernier on distributor (TR3-B, TR4, center vernier)
3. Connect 12-volt test lamp to distributor primary terminal and to ground
4. Loosen distributor clamp bolt and turn distributor until points just open as indicated by test lamp. Tighten clamp screw
5. Turn knurled screw on vernier counterclockwise to advance the timing 2 division marks on vernier scale (One division mark for TR4) This equals 4° of crankshaft advance

Note: Premium fuel is recommended to assure maximum performance. If lower octane is used, reduce timing advance accordingly

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 4°

FUEL PUMP
AC-Delco type VE
Pressure: 1½-2½ lb. at cranking speed
Volume: Approx. 1 pint in 1 minute at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
STROMBERG	
Twin 1-bbl. 175 C.D.	1½
S.U.	
Twin 1-bbl. H-4	1½
Twin 1-bbl. H-6	1½

ENGINE IDLE SPEED
850 rpm

VALVE CLEARANCES
(engine cold, not running)
TR2, TR3 (with steel rocker shaft pedestals): Intake .010"; exhaust .012"*
TR3, TR3-A, -B, TR4 (with aluminum rocker shaft pedestals): Intake .010"; exhaust .010"**
* For high-speed driving, both intake and exhaust .013"
** Normal and high-speed driving

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
TR4	8⅜	7⅞
All other models	8¾	8⅜

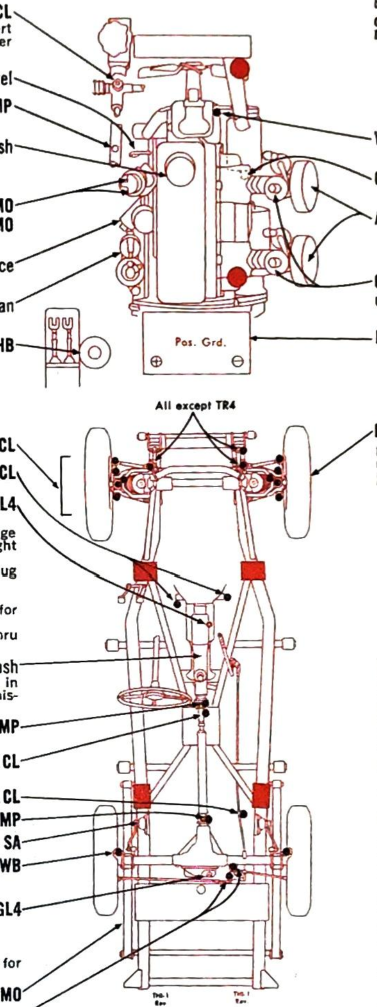
Cooling system pressure, 4 pounds

Chek-Chart

CRANKCASE ......"MS" or "DG" MO

Above +70°	40	20W-40
Above +40°	30	10W-30
Above +10°	20,20W	10W-30
Below +10°	10W	10W-30

CAPACITY 6 quarts
DRAIN and REFILL
See Service Instructions, page 4



12 **Steering Gear** (plug) TR4 .... Sparingly CL
With steering at full left lock, remove plug, insert fitting. Use low pressure, do not swell retainer boots

Crankcase Dipstick .... Check level

★ **Steering Gear** (plug) TR2, TR3, TR3-A, -B .... MP
Above +30°, 90; below +30°, 80

6 **Oil Fill Cap** .... Wash
TR3-B, TR4, at rear of engine

Distributor
6 Cam bearing (under rotor) .... Sparingly MO
6 Advance mechanism .... Sparingly MO
Lubricate thru opening around cam

6 **Oil Filter** .... Replace
Add extra pint oil

6 **Fuel Pump Sediment Bowl and Screen** .... Clean
Also screens in carburetor float bowl unions

★ **Brake Fluid Reservoir** (cap) .... HB
Includes clutch reservoir
Fill to 1 inch below top of fill hole
Service both reservoirs on TR4

Water Pump .... WB 6

Generator (oil hole) .... Sparingly MO 6

Air Cleaner Elements .... Service
Wire gauze .... Wash and oil MO 6

Carburetor Dashpots .... 20 MO ★
Unscrew caps, fill only to level of inner hollow shaft

Battery .... Test and fill ★

★ **Front Suspension and Steering Linkage** .....(10 or 13 fittings) CL

6 **Clutch Cross Shaft** .... Sparingly CL

TRANSMISSION .... HP, GL4
Above +30°, 90; below +30°, 80
Models before Serial No. TS50000, the level gage is attached to fill plug. Reach thru floor on right side
★ Maintain level to top mark on gage or to fill plug hole
CAPACITY 1¾ pints; with overdrive, 3¼ pints
DRAIN and REFILL Not recommended, except for temperature requirements only
Overdrive, drain thru separate plug hole, fill thru transmission

6 **Overdrive Filter** .... Wash
After reinstalling filter, run car short distance in overdrive and recheck lubricant level in transmission

6 **Universal Joint** .... 140 MP
Reach thru opening in tunnel

6 **Universal Joint Spline** CL
Reach thru opening in tunnel

6 **Hand Brake Cable** CL

6 **Universal Joint** .... 140 MP

12 **Rear Shock Absorbers** .... Fill SA

6 **Rear Wheel Bearings** .... Sparingly WB
Use low pressure

DIFFERENTIAL .... HP, GL4
Above +30°, 90; below +30°, 80
★ Maintain level to fill plug hole
CAPACITY 1¾ pints
DRAIN and REFILL Not recommended, except for temperature requirements only

12 **Rear Springs** .... Coat MO

6 **Hand Brake Compensator** CL

Front Wheel Bearings (fittings) .... WB ★
Models before 1957 Serial No. TS13046, fittings under hub caps
Remove bearings and repack .... WB 6
TR4 .... Repack WB 24
Every 12,000 miles, if car is used in competition driving

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated

Adjust the brakes as follows:
TR2 and TR3 with Lockheed drum brakes (up to commission No. TS 1300)
Front brakes have two adjusters each. Rear brakes have one adjuster each
1. Remove road wheels to expose adjustment opening provided in each drum
2. Turn drum until each slotted head adjuster aligns with adjustment opening
3. Using a screw driver, turn each adjuster until a slight drag is felt when revolving drum
4. Back off each adjuster one notch

TR3, TR3-A, -B, TR4 with Girling disc brakes on front and drum brakes on rear (commission No. TS 1300 and later). Front disc brakes are self-adjusting, replace pads when ⅛" thick. Rear drum brakes, adjust as follows:
A single cam adjuster is located on each backing plate above the axle tube
1. Turn each adjuster clockwise until drum cannot be turned by hand
2. Back off each adjuster one notch. Drum should rotate freely without drag

Bleeding sequence: RR, LR, RF, LF

GAS TANK .... Gallons

TR2	15
TR4	14
All other models	14¾

TIRES .... Pressure

	Front	Rear
5.50-15	22*	24*
5.90-15, 6.00-15	22*	24*
Michelin X tires, TR2, TR3	24◆	28◆
Michelin X tires, TR4	24	32

* High speed, front 28, rear 30
◆ High speed, front 29, rear 33

6 **Rotate tires, Method C, then balance wheels**

■ Position for lift adapter
● Lubrication fitting
● Cooling system drain

KEY TO INTERVALS

★ Every 3,000 miles
6 Every 6,000 miles
12 Every 12,000 miles
24 Every 24,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CL Chassis Lubricant
GL4 Multipurpose-Type Gear Lubricant API Service GL4
HB Hydraulic Brake Fluid, Heavy-Duty SAE 70R3
HP Hypoid Gear Lubricant
MO Motor Oil
MP Multi-Purpose Gear Lubricant
SA Shock Absorber Fluid, Light
WB Wheel Bearing Grease

VAUXHALL
1958-62 Victor

HOOD RELEASE: 1962, Inside; others, Front

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	Special	43

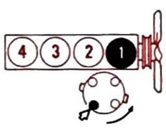
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All .... minimum 125*
* Maximum variation between cylinders, 20 psi

SPARK PLUGS
AC 44-5V
Gap: .028"-.032"
Torque: 25 ft. lb.

IGNITION POINTS
Delco
Gap: .019"-.021"
Dwell angle: 35°-37°

CONDENSER
Delco
Capacity: .18-.23 mfd

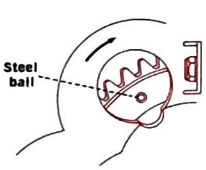
Cylinder Numbering Sequence



Firing Order: 1, 3, 4, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. If equipped with octane selector scale, set scale at 0°
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at flywheel housing aperture. Turn distributor to obtain alignment of steel ball with center of notch
7. Reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
9° (Steel ball aligned with notch)

FUEL PUMP
AC model FG
Pressure: 2½-3½ lb. at lowest possible idle speed
Volume: 1 pint in 60 seconds at 2000 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
ZENITH 1-bbl. 34VN	1½

ENGINE IDLE SPEED
450-500 rpm

VALVE CLEARANCES
(engine hot and running)
Intake .013"; exhaust .013"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM .... Quarts
	With Heater
All models	8¼

Cooling system pressure, 4 pounds

[★] **Battery** .... Test and fill
1962, right side

[4] **Oil Filter** (under car) .... Replace

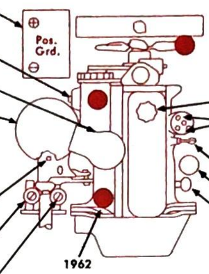
[4] **Generator** (oil hole) .... MO

Air Cleaner Element .... Service
- [4] Dry type .... Inspect
- [12] Dry type .... Replace
- [4] Oil bath .... Wash and fill MO
  Above +32°, 50; below +32°, 20

[★] **Steering Gear** (plug) .... Seasonal grade MP
If necessary, remove air cleaner to service

[★] **Clutch Master Reservoir** (cap) .... HB
Fill to ¼ inch below top of fill hole

[★] **Brake Master Reservoir** (cap) .... HB
Fill to ¼ inch below top of fill hole



CRANKCASE .... "MS" MO

Above +32°	20W	10W-30
Above 0°	10W	10W-30
Below 0°	5W	5W-20

CAPACITY 3½ quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap .... Wash and oil MO [4]
1962, sealed cap

Distributor Shaft .... MO [4]
Add oil slowly thru hole in distributor plate farthest from shaft, approximately 1 teaspoonful
- Wick under rotor .... Sparingly MO [4]
- Felt under plate .... Sparingly MO [4]

Lubricate thru hole in plate nearest shaft

Crankcase Dipstick .... Check level

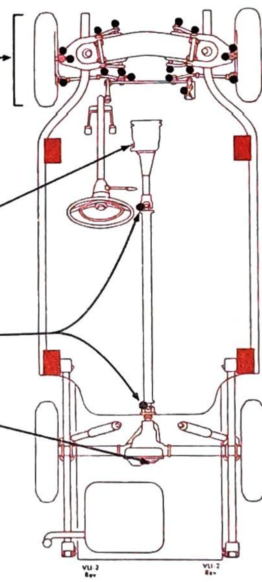
Fuel Filter Screen .... Clean [4]

Crankcase Breather 1962 .... Wash and oil MO [4]

[★] **Front Suspension and Steering Linkage** 1958-61 .... (17 fittings) CL

[12] **Front Suspension Ball Joints** .... (4 fittings) CL
1962 models

Front Wheel Bearings .... Repack WB [12]



TRANSMISSION .... MP
Above 0°, 90; above −25°, 80; below −25°, 75 or 80 plus 10% kerosine
[★] Maintain level to fill plug hole
CAPACITY 2½ pints
[C] DRAIN and REFILL

[★] **Universal Joints** 1958-61 CL
Use low pressure

DIFFERENTIAL .... 90 HP
[★] Maintain level to fill plug hole
CAPACITY 3 pints
DRAIN and REFILL Not recommended

GAS TANK .... Gallons
1962	11
All other models	9½

TIRES

Pressure	Front	Rear
5.60-13	24	24
5.90-13	24	24
Estate car fully loaded	24	30

[4] Rotate tires, Method B, then balance wheels

- Position for lift adapter
- Lubrication fitting
- Cooling system drain

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" the need for service is indicated
Adjust the brakes as follows:
Front brakes
1. Two square head adjusters are provided on each front backing plate. Use a suitable tool to turn one adjuster counterclockwise until drum cannot be turned
2. Back off one notch to free drum
3. Repeat steps 1 and 2 for the other adjuster
4. Repeat steps 1, 2 and 3 for the other front brake

Rear brakes

5. A single external adjuster is provided on each rear backing plate. Turn the adjuster clockwise until drum cannot be turned
6. Back off adjuster 2 notches to free drum
7. Repeat steps 5 and 6 for the other rear brake

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS
- [★] Every 1,000 miles
- [4] Every 4,000 miles
- [12] Every 12,000 miles
- [C] Conditional service
  Drain and refill transmission, depending on temperature

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS
- **CL** Chassis Lubricant
- **HB** Hydraulic Brake Fluid, Heavy-Duty
- **HP** Hypoid Gear Lubricant, Lead-soap-active sulfur type
- **MO** Motor Oil
- **MP** Multi-Purpose Gear Lubricant
- **WB** Wheel Bearing Grease


Sedan

Karmann-Ghia

VOLKSWAGEN

1953-64 All Models Except Truck and Station Wagon Includes Karmann-Ghia

HOOD RELEASE: Rear lid handle, sedan; inside, Karmann-Ghia

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	19L (6-volt)	77

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi

	psi
25-hp engine	85-105
36-hp engine	100-120
40-hp engine	100-128

SPARK PLUGS

Bosch W175T1; Champion L-87Y preferred (L-7, L-85 may be used)
Gap: .024"-.028"
Torque: 22-29 ft. lb.

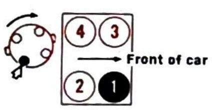
IGNITION POINTS

Bosch or VW
Gap: .016"
Dwell angle: Bosch distributor, 51°-55°; VW distributor, 48°-52°

CONDENSER

Bosch
Capacity: .25-.30 mfd

Cylinder Numbering Sequence

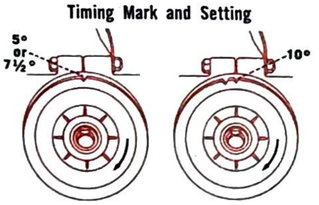


Firing Order: 1, 4, 3, 2

TIMING PROCEDURE

1. Connect 6-volt test lamp to distributor primary terminal and to ground
2. Turn pulley until notch is aligned with split in crankcase
3. Turn distributor housing until points just break, as indicated by the test lamp

Timing Mark and Setting



Early models / Late models

Timing Setting (Before Top Dead Center):
Timing must be set with engine cold
1953, 5°; 1954-60, 7½°; 1961-64, 10°
Notch aligned with split in crankcase
When pulley has two notches, use right notch

FUEL PUMP

Solex or Pierburg
Pressure: 1953-60, 1.3-1.85 lb. at 1000-3000 rpm; 1961-64, 2½ lb. at 3000 rpm
Volume: 1953-60, 5½ ounces; 1961-63 early, 9 ounces; 1963 late -64, 13½ ounces, in 1 minute at 3000 rpm

CARBURETOR ADJUSTMENT

SOLEX	Idle Mixture (initial turns)	Choke (notches) Man. Trans.
25-, 36-hp engines 1-bbl. 28PCI	1¼-1½	manual
40-hp engine 1-bbl. 28PICT	1¼-1½	Index*

* During warm season, above +68°, air control damper should be locked "open"

ENGINE IDLE SPEED

500-550 rpm

VALVE CLEARANCES

(engine cold, approx. +68°, not running)
40-hp engine: Intake .008"; exhaust .008"
Others: Intake .004"; exhaust .004"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek Chart

[3] Steering Gear (plug)................90 MP
Use 80 in arctic climate. GL may be used
Reach under cover plate under front hood

[★] Front Suspension and Steering Linkage.....(8 or 12 fittings) LM

CL may be used

[★] Pedal Shaft (inside car)................LM
CL may be used
On early models only

LIFTING PRECAUTIONS

Lift car to remove weight from front wheels when lubricating front axle assembly

[F] Clutch Cable Ball Joint.............Coat LM
CL may be used

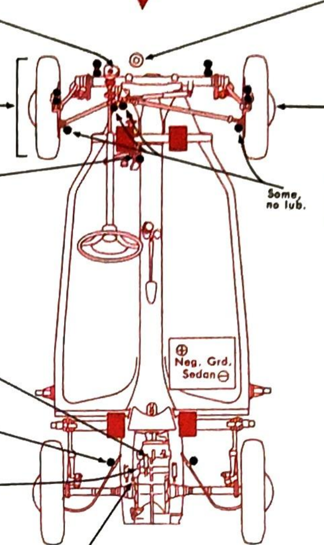
[3] Brake Cables 1953-61.........Sparingly LM
CL may be used

TRANSAXLE................90 MP
Use 80 in arctic climate. GL may be used
1953-60, plug on right side
[3] Maintain level to fill plug hole
CAPACITY 1961-64, 5¼ pints; all other models, 4¼ pints
DRAIN and REFILL
[15] 1953-60
[30] 1961-64
Drain thru both plugs; clean magnetic drain plugs
Fill slowly, allow 2 to 3 minutes for oil level to stabilize before replacing fill plug

[F] Heater Cable Both sides...........Coat LM
CL may be used

GAS TANK..................Gallons
All models 10½

TIRES........Pressure Front Rear
5.60-15 ....16, 17* 20, 24*
* Depending on number of occupants



Brake Master Cylinder (cap).............HB [3]
Fill reservoir ¾ full
1953, remove left wheel to reach; all other models, remove spare tire to reach

Front Wheel Bearings............Repack LM [30]
Tighten adjusting nut until bearings drag slightly, or to 21 ft. lb. of torque, spin wheel. Loosen nut until thrust washer can just be moved sidewise with screw driver and brake drum has no axial play. Install lock plate and nut lock, tighten nut lock and recheck to be sure of sidewise movement of thrust washer. Bend one tab on lock plate over adjusting nut and other tab over nut lock

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated
Two adjusters are provided in each brake
Adjust the brakes as follows:

1. Raise car, remove hub caps, apply pedal firmly a few times, turn wheel until one adjuster is visible behind hole in drum
2. Turn each adjuster until the shoe makes light contact with the drum
3. Back off each adjuster 3-4 teeth until drum revolves freely without drag
4. Depress pedal firmly a few times and recheck the adjustments
5. Repeat procedure at each wheel

Bleeding sequence: RR, LR, RF, LF

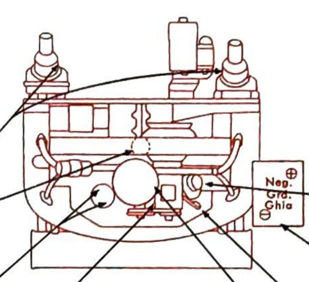
KEY TO INTERVALS

[★] **Every 3,000 miles**
Adverse conditions: Every 1,500 miles
[3] **Every 3,000 miles**
[15] **Every 15,000 miles**
[30] **Every 30,000 miles**
[F] **Every fall**

CRANKCASE..............."MS" MO

Above +90°.................	30	10W-30
Above +32°.................	20,20W	10W-30
Above −10°.................	10W	10W-30
Below −10°.................	5W	5W-20

CAPACITY 2½ quarts
DRAIN and REFILL Clean magnetic drain plug
See Service Instructions, page 4



[F] Heater Linkage ....Coat GG

[3] Oil Strainer..............Remove and clean
To reach, remove plate, bottom of crankcase
Reinstall with new gasket

Distributor
[3] Wick under rotor.........One drop oil MO
Some 1961 with Volkswagen distributor
[3] Felt on plate...........One drop oil MO
1961-64 with Bosch distributor

[3] Carburetor Linkage ....MO

Oil Fill Cap

Battery Karmann-Ghia ....Test and fill [3]
Sedan and convertible models under rear seat

Crankcase Dipstick..............Check level

Air Cleaner Element................Service
Oil bath............Wash and fill 20 MO [3]

Position for lift adapter
● Lubrication fitting

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CL Chassis Lubricant	**HB** Hydraulic Brake Fluid, Heavy-Duty	**MO** Motor Oil
GG Graphite Grease	**LM** Lithium Grease	**MP** Multi-Purpose Gear Lubricant
GL Straight Mineral Gear Lubricant		

VOLVO

1957-64 PV444, -445; P210, PV544

PV444, -544

PV445, P210

HOOD RELEASE: Inside

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
B18 engine	24	60
All others	19	84

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi

60 bhp B16A engine 135-150
70 bhp B14A engine 142-156
85 bhp B16B engine 142-156
90 bhp B18D engine 170-200

SPARK PLUGS

B18D engine: Bosch W175T1; Champion L-7
Others: Bosch W175T3; Champion J-6*
Gap: .028"
Torque: 14 mm plug: with copper gasket, 25 ft. lb.; with steel gasket, 29 ft. lb.; 10 mm plug, 11 ft. lb.
* Early 70 bhp engine, 10 mm Y-4-A

IGNITION POINTS

Autolite and Bosch
Gap: Autolite .018"-.022"; Bosch .016"-.020"
Dwell angle: Autolite 47°; Bosch: B18 engine, 60°-63°; others, 47°-53°

CONDENSER

Autolite and Bosch
Capacity: Autolite .20-.25 mfd; Bosch .20-.25 mfd

Cylinder Numbering Sequence

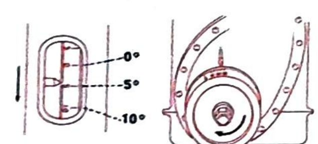
B14 engine Autolite dist. — B14, B16 engines Bosch distributor — B18 engine

Firing Order: 1, 3, 4, 2

TIMING PROCEDURE

1. Connect tachometer
2. Connect timing light to No. 1 spark plug or distributor cap tower
3. Disconnect distributor vacuum line
4. Set engine speed to 1500 rpm
5. Observe timing marks at flywheel opening and turn distributor to obtain recommended setting as follows:
   B14A engine, 20°
   B16A engine, 21°
   B16B engine, 23°
   B18D engine, 22°-24°
6. Reconnect vacuum line and reset idle to proper idle speed

Timing Mark and Setting



B14, B16 engines — B18 engine

Timing Setting (Before Top Dead Center):

B14A engine, 2° static*
B16A engine, 4° static*
B16B engine, 6° static*
B18 engine, 5° static*
* Engine should be timed at 1500 rpm. See Timing Procedure Section

FUEL PUMP

AC type UG
Pressure: B18 engine, 1½-2½ lb.; others, 2-3½ lb., all at idle rpm
Volume: 16 ounces in 1 minute at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
S.U.	
Twin 1-bbl. H-2	1
Twin 1-bbl. H-4	1
Twin 1-bbl. HS-6	1⅔
ZENITH	
1-bbl. 34VN	1-2

ENGINE IDLE SPEED

B16A engine, 450-550 rpm
Others, 500-700 rpm

VALVE CLEARANCES

(engine hot, not running)

B16A engine: Intake .016"; exhaust .018"
B18D engine: Intake .016"-.018"; exhaust .016"-.018"
Others: Intake .020"; exhaust .020"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

With Heater

All models 9
Cooling system pressure, 4 pounds

6 Water Pump ....Sparingly **CL**
B18 engine, no lubrication

3 Steering Gear (plug)................80 **MP**

3 Fuel Pump Sediment Bowl and Screen...Clean
B14, B16 engines, clean screens in S.U. carb. float bowl unions

6 Oil Fill Cap...............Wash and oil **MO**

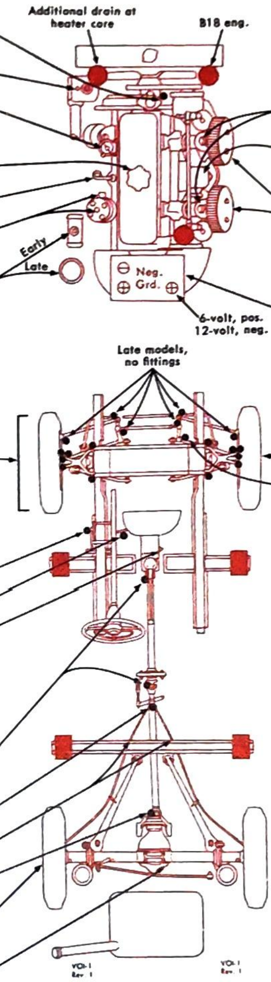
Crankcase Dipstick............Check level

6 Distributor Shaft (oil cup)...............**MO**

6 Wick under rotor..........Sparingly **MO**

3 Brake Master Cylinder (cap)...............**HB**
Fill to bottom of filter screen or to ½ inch below top of fill hole

Chek-Chart



CRANKCASE.............."MS" MO

Above +90°.............. 30 — 10W-30*
Above +32°..............20,20W — 10W-30*
Below +32°..............10W — 10W-30*

* 10W-30 is preferred

CAPACITY B18 engine, 3½ quarts; others, 3 quarts

DRAIN and REFILL
See Service Instructions, page 4

Carburetor Dashpots ....20 **MO** **3**
S.U. carburetors only. Unscrew caps, fill only to top of inner hollow shafts

Oil Filter ....Replace **6**
Add extra quart oil; except B18 engine, add extra pint oil
70-bhp models, at left front

Air Cleaner Elements...............Service
Dry type ....Replace **12**
Wire gauze ....Wash and oil **MO** **3**

Battery.......................Test and fill **★**

★ Steering Linkage and Front Suspension....(12 or 18 fittings) **CL**

Y Steering linkage joints without fittings..**CL**
Fill cavity between ball joint and rubber cover using flat nozzle grease gun adapter. Fold up rubber cover
Late models with lock clip around rubber cover, no service

3 Pedal Shaft ....**CL**

3 Clutch Shaft ....**CL**

TRANSMISSION ....GL

Above -5°, 90; below -5°, 80
30MO may be used

★ Maintain level to fill plug hole

CAPACITY 3-speed, 1 pint; late models with synchronized 1st speed, 1½ pints; late 4-speed, 1½ pints; early 4-speed, 2 pints

12 DRAIN and REFILL

3 Universal Joints ....**CL**
Some, no lubrication

3 Universal Joint Spline.....................**LM**

C Hand Brake Cable Guides....Coat sparingly **GG**

3 Universal Joint ....**CL**
Some, no lubrication

25 Rear Wheel Bearings...........Repack **WB**
Necessary to remove axle shafts

DIFFERENTIAL ....MP

Above -5°, 90; below -5°, 80

★ Maintain level to fill plug hole

CAPACITY 2¾ pints

12 DRAIN and REFILL

Front Wheel Bearings............Repack **WB** **12**

Idler Arm ....**CL** **★**
Some models, no lubrication

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated

P210, PV544: Adjust the brakes as follows:

1. Use a suitable tool inserted into adjustment opening in backing plate to expand shoes until drum cannot be turned by hand
2. Back off adjuster screw 8 notches. Drum should turn freely without drag
3. Repeat procedure at each wheel

PV444, -445 self-adjusting brakes are used. No adjustment normally required

Bleeding sequence: LF, RF, LR, RR

GAS TANK ....Gallons

All models 9¼

TIRES

	Pressure Front	Rear
5.90-15, PV444, PV544............	21	24
6.40-15, PV445, P210.............	21	24
With heavy load...............	21	28

Position for lift adapter
Lubrication fitting
Cooling system drain

KEY TO INTERVALS

★ Every 1,000 miles
3 Every 3,000 miles
6 Every 6,000 miles
12 Every 12,000 miles
25 Every 25,000 miles
Y Every year
C Conditional service
Coat hand brake cable guides as required

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CL Chassis Lubricant
GG Graphite Grease
GL Straight Mineral Gear Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty SAE 70R3
LM Lithium Grease Containing molybdenum disulfide
MO Motor Oil
MP Multi-Purpose Gear Lubricant
WB Wheel Bearing Grease

ALFA ROMEO

AUSTIN HEALEY SPRITE

DKW-750

BMW

CITROEN

DATSUN

ALFA ROMEO

MODEL	CAPACITY	LUBRICANT
CRANKCASE	QUARTS	
1956-63 Giulietta 1300 series Spider, Sprint	6¼①	MO For Service MS Above +50° 40 Below +50° 30
Sprint Veloce, Super Spider	6¼①	
1960-63 2000 Roadster	7½①	
1963-64 Giulia 1600 series	6⅝	
2600 series	8¼	
MANUAL TRANSMISSION	PINTS	
1956-63 Giulietta 1300 series Spider, Sprint	2⅞	All temperatures, GL 90
Sprint Veloce, Super Spider	3	
1960-63 2000 Roadster	3½	
1963-64 Giulia 1600 series	3¾	
2600 series	3¾	
DIFFERENTIAL	PINTS	
1956-63 Giulietta 1300 series Spider, Sprint, Sprint Veloce, Super Spider	3	All temperatures, EP 90
1960-63 2000 Roadster	6	
1963-64 Giulia 1600 series	3	
2600 series	4⅞	

①Includes filter.

AUSTIN

MODEL	CAPACITY	LUBRICANT	
CRANKCASE	QUARTS		
1955 A-70	7	MO For Service MS	
1955-56 A-30 "Seven"	3½	Above +90° 40	20W-30
1956 A-90	6½	Above +32° 30	20W-30
1957-59 A-35	4½	Above +10° 20,20W	20W-30
A-95, A-105	7½	Below +10° 10W	...
1955-56 A-40, A-50	4¼		
1957-59 A-55	4¼	Above +32° 30	20W-30
1959-62 A-55 Mark II	4½①	Above +10° 20,20W	20W-30
A-40 series A2S6	4½	Below +10° 10W	...
1960-64 Mini, Mini Cooper	5②		
1962-63 A-60	4½①		

MODEL	Initial Refill (QUARTS)	Total Refill (QUARTS)	LUBRICANT
AUTOMATIC TRANSMISSION			
1962-63 A-60	5⅜	6⅝	All temperatures, AF
MANUAL TRANSMISSION	PINTS Manual	O'drive	
1955 Early A-40	3½	—	All ex. Mini, Mini Cooper, MO 30
A-70	3½	—	
1955-56 A-30 "Seven"	2¼	—	
1955 Late -56 A-40, A-50	5⅜	6⅞	
1956 A-90	5½	—	
1957-59 A-35	3	—	
A-55	5⅝	6⅞	
A-95, A-105	5	6¼	
1959-62 A-40 series A2S6	2⅜	—	
A-55 Mark II	5⅝	—	
1960-64 Mini, Mini Cooper	②	—	
1962-63 A-60	5⅝	—	

MODEL	CAPACITY	LUBRICANT
DIFFERENTIAL	PINTS	
1955 Early A-40	2¾	MP
A-70	3⅜	1955 Early A-40, A-70
1955-56 A-30 "Seven"	1¼	Above +32° 140
1955 Late -56 A-40, A-50	2¾	Above 0° 90
1956 A-90	3½	Below 0° 80
1957-59 A-35	2¼	A-35, A-90, A-95, A-105
A-55	2½	Above +32° 90
A-95, A-105	3½	Below +32° 80
1959-62 A-40 series A2S6	2	All others ex. Mini, Mini Cooper
A-55 Mark II	2¾	Above +10° 90
1960-64 Mini, Mini Cooper	②	Below +10° 80
1962-63 A-60	2¾	

①Includes oil filter.
②Crankcase, transmission and differential combined. Capacity includes filter.

AUSTIN HEALEY

MODEL	CAPACITY	LUBRICANT	
CRANKCASE	QUARTS		
1955-56 100 4-cyl.	7¼	MO For Service MS	
1957-59 100 Six	7	Above +32° 30	20W-30
1958-64 Sprite Mark I, II	4①	Above +10° 20,20W	20W-30
1960-64 3000 Mark I, II, II Convertible	7	Below +10° 10W	...

AUSTIN HEALEY Continued

MODEL	CAPACITY Manual	O'drive	LUBRICANT
MANUAL TRANSMISSION	PINTS		
1955-56 100 4-cyl.	6	7½	All temperatures, MO 30
1957-62 100 Six, 3000 Mark I, II	6	7½	
1958-64 Sprite Mark I, II	2¼	—	
1963-64 3000 Mark II Convertible	6⅞	8⅝	
DIFFERENTIAL	PINTS		
1955-64 All ex. Sprite	3⅛②		MP Above +10° 90
1958-64 Sprite Mark I, II	1¾		Below +10° 80

①Includes oil filter.
②1955 100 series, spiral bevel, 2¾ pints.

AUTO UNION-DKW

MODEL	CAPACITY	LUBRICANT
ENGINE	QUARTS	
1956-57 Big DKW 3=6	①	WITHOUT RESERVOIR MS or DG When refueling, pour ½ quart oil in tank, then add 5 gallons of gasoline Above +32°, 30; below +32°, 20,20W
1957-63 AU-1000, -1000S, -1000Sp.	①	WITH RESERVOIR MS-DG or TO
1960-64 DKW-750, DKW Junior DeLuxe	①	All temperatures, 10W-30. Capacity, 4 quarts
TRANSAXLE	PINTS	
1956-57 DKW 3=6	5¼	GL 90
1957-63 AU-1000, -1000S, -1000Sp.	5¼	All ex. DKW-750, DKW Junior DeLuxe may use 80
1960-64 DKW-750, DKW Junior DeLuxe	3¾	

①Two-cycle engine, oil mixed with gasoline.

BMW

MODEL	CAPACITY	LUBRICANT
CRANKCASE	QUARTS	
1957-60 503, 507	7	MO For Service MS 10W-30 or HD 30
1957-64 502	7	
1958-64 600, 700	2⅛	
1962-64 1500, 1800	4½	
MANUAL TRANSMISSION	PINTS	
1957-64 502, 503, 507, 1500, 1800	2½	All temperatures, MP 90
TRANSAXLE	PINTS	
1958-64 600, 700	2½	600, MO For Service MS 20 700, MO 40, GL 80
DIFFERENTIAL	PINTS	
1957-60 503, 507	3½	All temperatures, HP 90
1957-64 502 2.6, 3.2	2¾	
1960-64 3.2 Super	3½	
1962-64 1500, 1800	2	

CITROEN

MODEL	CAPACITY	LUBRICANT	
CRANKCASE	QUARTS		
1955 11CV	4	All temperatures, MO 20	
1955-58 2CV	2		
		MO For Service MS or DG	
1956-64 DS19, ID19	4	Above +86° 30	20W-40
1963-64 AMI-6	2	Above 0° 20①	10W-30①
		Below 0° 5W-20	
TRANSAXLE	PINTS	EP	
		2CV, all temperatures, 80	
1955 11CV	4	DS19, ID19, all temperatures, 90	
1955-58 2CV	2	11CV	
1956-64 DS19, ID19	4	Above +32° 90	
		Below +32° 80	
1963-64 AMI-6	2	All temperatures, EP 80	

①AMI-6, SAE 5W-20 below +10°.

DATSUN

MODEL	CAPACITY	LUBRICANT	
CRANKCASE	QUARTS	MO For Service MS or DG	
		Above +90° 30	10W-30
1959-61 1000, 2000	3½	Above +32° 20,20W	10W-30
1961 Bluebird	2¾	Above +10° 20W	10W-30
		Below +10° 10W	10W-30
		MO For Service MS	
1963-64 Cedric	3¼	Above +90° 40	20W-40
		Above +32° 30	10W-30
		Below +32° 20	10W-30
MANUAL TRANSMISSION	PINTS		
1959-61 1000, 2000	4⅝	MP	
1961 Bluebird	1½	Above +32° 90	
1963-64 Cedric	5	Below +32° 80	

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A, Suffix A
- **EP** Extreme Pressure Gear Lubricant
- **GL** Straight Mineral Gear Lubricant
- **HD** Heavy-Duty Motor Oil
- **HP** Hypoid Gear Lubricant
- **MO** Motor Oil
- **MP** Multi-Purpose Gear Lubricant
- **TO** Auto Union-DKW Two-Cycle Engine Lubricant

IMPORTED CARS

Fiat thru Mercedes-Benz

MODEL	CAPACITY	LUBRICANT

DATSUN Continued

DIFFERENTIAL	PINTS	
1959-61 1000, 2000	1¾	MP
1961 Bluebird	2	Above +32° 90
1963-64 Cedric	2	Below +32° 80

FIAT

CRANKCASE	QUARTS		
1957-61 600, 600 Multipla	3⅜		
500, 500 Bianchina	1⅞	MO For Service MS①	
1957-64 1100, 1200 series	3⅝	Above +90° 40	20W-40
1959-64 1500 Cabriolet	4¼	Above +32° 30	10W-30
1800, 1800B, 2100, 2300	4¼	Above +10° 20	10W-30
1962-64 600D	3⅜	Below +10° 10W	10W-30
1964 1500 Spider	3⅝		

MANUAL TRANSMISSION	PINTS Manual	PINTS O'drive	
1957-64 1100, 1200 series	2⅝	—	1100, 1200, 1500 Cabriolet, 1500
1959-64 1500 Cabriolet	2⅝	—	Spider, GL or EP 90
1800, 1800B, 2100, 2300	3¾	5⅝	All others, EP 90
1964 1500 Spider	2⅝		

TRANSAXLE	PINTS	
1957-61 500, 500 Bianchina	2⅝	
600, 600 Multipla	3⅝	All temperatures, EP 90
1962-64 600D	3⅝	

DIFFERENTIAL	PINTS	
1957-64 1100, 1200 series	1⅜	
1959-64 1500 Cabriolet	1⅜	All temperatures, EP 90
1800, 1800B, 2100, 2300	2½	
1964 1500 Spider	1⅞	

①MM may be used under favorable conditions.

FORD

CRANKCASE	QUARTS	MO For Service MS
1955-62 Consul	3¾	Above +32° 20,20W
Zephyr, Zodiac	4¾①	Above −10° 10W
1963-64 Zodiac Mark III	4¾	Below −10° 5W
		Above +90° 30
1955-59 Anglia, Prefect	2	Above +32° 20,20W
1955-60 Escort, Squire	2	Above −10° 10W
		Below −10° 5W
1958-60 Taunus 17M	2¾	Above +14° 20,20W Below +14° 10W
1960-64 Anglia, Prefect	2⅝	Above +32° 20,20W
1962-64 Consul 315, Capri	2⅝	Above −10° 10W
1963-64 Consul Cortina	2⅝②	Below −10° 5W

AUTOMATIC TRANSMISSION	QUARTS Initial Refill	QUARTS Total Refill	
1956-64 Zephyr, Zodiac	6	8½	All temperatures, AF

MANUAL TRANSMISSION	PINTS Manual	PINTS O'drive	
1955-60 Anglia, Prefect, Escort, Squire (100E)	2	—	
1955-62 Consul, Zephyr, Zodiac	3	3¾	
1958-60 Taunus 17M 3-speed	3¾	4¾	All temperatures, EP 80
4-speed	3	—	
1960-64 Anglia (105E), (106E)	2⅛	—	
1962-64 Consul 315, Cortina, Capri	2⅛	—	
1963-64 Zodiac Mark III	4¾	—	

DIFFERENTIAL	PINTS	
1955-60 Anglia, Prefect, Escort, Squire (100E)	1¾	Anglia ex. (105E); Prefect, Escort, Squire, EP 90
1955-62 Consul, Zephyr, Zodiac	3	Anglia (105E), Consul, Zephyr, Zodiac HP
1958-60 Taunus 17M 3-, 4-speed	2¼	
1960-64 Anglia (105E), (106E)	2⅝	Above −10° 90
1962-64 Consul 315, Cortina, Capri	2⅝	Below −10° 80
1963-64 Zodiac Mark III	3	Taunus 17M, HP 90

①1955-56, 4 quarts. ②1500 c.c. engine, 3¾ quarts.

HILLMAN

CRANKCASE	QUARTS	MO For Service MS	
		Above +90° 40	20W-40
1955-56 Minx Mark IV thru VIIIA;		Above +45° 30	10W-30
Husky	4¾①	Above +10° 20,20W	10W-30
		Above −10° 10W	10W-30
		Below −10° ...	5W-20
1957-64 Husky series I	3¾	Above +70° 30	20W-40
Minx I, II, III, III-A, -B, -C, V; Husky series II, III	4¾	Above +20° 20,20W	10W-30
		Above +5° 10W	10W-30
1962-64 Super Minx Mark I, II	4	Below +5° ...	5W-20

AUTOMATIC TRANSMISSION	QUARTS	
1960-63 Easidrive	②	MO Above 0° 10W-30 Below 0° 5W-20
1963-64 Borg Warner	6½	All temperatures, AF

MANUAL TRANSMISSION	PINTS	
1955-56 Minx Mark IV thru VIII; Husky	2½	
Minx Mark VIII Deluxe, VIII-A	2¾	MO Above −10° 30 Below −10° 20,20W
1957-64 Minx I, II, III, III-A, -B, -C, V; Super Minx Mark I, II; Husky series I, II, III	3⅛	

DIFFERENTIAL	PINTS	
1955-64 All	2	EP Above −10° 90③ Below −10° 80

①Includes filter.
②3¾ pints.
③Spiral bevel, SAE 140 above +32°.

JAGUAR

CRANKCASE	QUARTS		
1955-62 Mark VII, VIII, IX	11½①		
1955-57 XK-140	11½①	MO For Service MS	
1956-64 2.4, 3.4, 3.8 Liter	6½①	Above +90° 40	10W-30
1958-61 XK-150, XK-150S	7¾①	Above +32° 30	10W-30
1962-64 "E" Type	9①	Below +32° 20	10W-30
Mark X	7¾①		

AUTOMATIC TRANSMISSION	QUARTS Initial Refill	QUARTS Total Refill	
1955-64 All	6	9	All temperatures, AF

MANUAL TRANSMISSION	PINTS Manual	PINTS O'drive	
1955-64 All	3	4¾	All temperatures, MO 30

DIFFERENTIAL	PINTS	
1955-62 Mark VII, VIII, IX	4½	
1955-61 XK-140, -150, -150S	4¾	HP 90
1956-64 2.4, 3.4, 3.8 Liter, "E" Type	3¼②	Powr-Lok, HP★ must be used
1962-64 Mark X	3¾	

①Includes filter. ②Early 2.4 Liter, 2¾ pints.

LANCIA

CRANKCASE	QUARTS	
1958-59 Aurelia	5¾	
1958-64 Flaminia	6½	MO For Service MS 10W-30①
1958-64 Appia, 2nd and 3rd series	4	
1962-64 Flavia	6	

MANUAL TRANSMISSION	PINTS	
1958-59 Aurelia	9½②	
1958-64 Flaminia	8¾②	All temperatures, MP 90
1958-64 Appia, 2nd and 3rd series	3	
1962-64 Flavia	4②	

DIFFERENTIAL	PINTS	
1958-64 Aurelia, Flaminia, Flavia	②	1959-64 Appia, 2nd and 3rd series
1959-64 Appia, 2nd and 3rd series	3⅜	MP 140

①DG may be used for Appia, 2nd and 3rd series.
②Differential combined with transmission.

MERCEDES-BENZ 1956-64

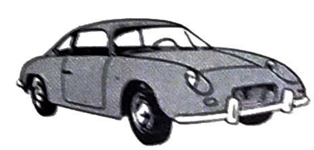
	QUARTS	
180, 190 series	4¾	MO For Service MS*
219, 220S, 220SE	6¾	Above +90° 30
220b, 220Sb, 220SEb, 230SL	5¾	Above +32° 20,20W①
300b, 300c, 300d, 300S	7	Above −10° 10W①
300Sc, 300SL	②	Below −10° 5W①
300SE	6⅜	

FIAT 1100

FORD ANGLIA

HILLMAN MINX

JAGUAR XK-150



LANCIA

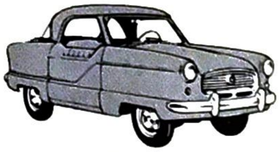
MERCEDES-BENZ 190SL

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A, Suffix A
- **EP** Extreme Pressure Gear Lubricant
- **GL** Straight Mineral Gear Lubricant
- **HP** Hypoid Gear Lubricant
- **MO** Motor Oil
- **MP** Multi-Purpose Gear Lubricant

Where the following symbols appear in chart recommendations, manufacturer specifies:
*Motor oil meeting MIL-L-2104A
★Special lubricant for non-slip differentials

IMPORTED CARS
Metropolitan thru Porsche



METROPOLITAN

MGA

MORRIS MINOR

NSU SPORT PRINZ

OPEL

PEUGEOT 403

PORSCHE

MODEL | CAPACITY | LUBRICANT

MERCEDES-BENZ 1956-64 Continued

AUTOMATIC TRANSMISSION

Model	QUARTS Initial Refill	QUARTS Total Refill	Lubricant
190c, 220b, 220Sb, 220SEb, 220SL	3	4	All temperatures, AF
300c, 300d	5	9½	
300SE	3	5¼	

MANUAL TRANSMISSION

Model	PINTS	Lubricant
All	3	All temperatures, AF

DIFFERENTIAL

Model	PINTS	Lubricant
180a, 180b, 180D, 180Db, 219, 220S, 220SE; 190 series ex. 190c, 190Dc	4¼	All temperatures, HP 90
190c, 190Dc, 220b, 220Sb, 220SEb, 230SL	5¼	
300b, 300c, 300Sc	6½	
300d, 300SL Roadster	4¾	
300S	6¾	
300SE	5¼	
300SL coupe	5	

①All except 190c, -Dc, 220b, -Sb, -SEb, 230SL, 300SE after 31,000 miles, use one grade heavier except 300 series, SAE 20,20W below +32°; 300SE, SAE 10W below −10°. 190c, -Dc, 220b, -Sb, -SEb, 230SL, 300SE may also use SAE 10W-30 from +90° to −10°; SAE 5W-20 below −10°.
②Capacity of oil tank: 300Sc, 10¼ quarts; 300SL coupe, normal driving, 11½ quarts; racing, 16 quarts, except Roadster, 14¾ quarts.

METROPOLITAN

CRANKCASE

Model	QUARTS	Lubricant	
1955-62 A, B, 1500 series	4	MO For Service MM, MS	
		Above +32° 30①	10W-30
		Above +10° 20,20W	10W-30
		Normally below +10° 10W	10W-30

MANUAL TRANSMISSION

Model	PINTS	Lubricant
1955 A series	3½	MO
1955-62 B, 1500 series	5½	Above 0° 30
		Below 0° 20,20W

DIFFERENTIAL

Model	PINTS	Lubricant
1955 A, B series	2	MP
1956-57 1500 series	2	Above +10° 90
1958-62 1500 series	2¼	Below +10° 80

①For high speeds in hot weather, SAE 40.

M.G.

CRANKCASE

Model	QUARTS	Lubricant	
1955 TF series	6¼①	MO For Service MS	
1955-59 Magnette ZA, ZB	4½①	Above +32° 30	20W-30
1956-61 MGA 1500, 1600	4	Above +10° 20,20W	20W-30
1958-61 MGA Twin Cam	7½	Below +10° 10W	
1959-62 Magnette Mark III	4½①		
1961-62 MGA 1600 Mark II	4		
1961-64 Midget	4①		
1963-64 MGB	4		
MG Sports Sedan	5⅛①		

MANUAL TRANSMISSION

Model	PINTS	Lubricant
1955 TF series	1½	TF series, MP
1955-59 Magnette ZA, ZB	5½	Above +10° 90
1956-62 MGA 1500, 1600, 1600 Mark II, Twin Cam	5⅝	Below +10° 80
1959-62 Magnette Mark III	5⅝	All others, MO 30
1961-64 Midget	2¾	
1963-64 MGB	5⅝②	
MG Sports Sedan	③	

DIFFERENTIAL

Model	PINTS	Lubricant
1955 TF series	2¾	MP
1955-59 Magnette ZA, ZB	3	Above +10° 90
1956-62 MGA 1500, 1600, 1600 Mark II, Twin Cam	2¼	Below +10° 80
1959-62 Magnette Mark III	2¾	
1961-64 Midget	1¾	
1963-64 MGB	2¾	
MG Sports Sedan	③	

①Includes oil filter.
②With overdrive, 6 pints.
③Combined with crankcase.

MORRIS

CRANKCASE

Model	QUARTS	Lubricant	
1955-56 Minor II	4①	MO For Service MS	
Oxford series II, Cowley	4¼①	Above +32° 30	20W-30
1955-59 Isis	7	Above +10° 20,20W	20W-30
1957-59 Oxford series III	4½①	Below +10° 10W	
1957-63 Minor 1000	4¼①		
1960-62 Oxford Mark V	4½①		
1960-64 Mini, Mini Cooper	5②		

MANUAL TRANSMISSION

Model	PINTS	Lubricant
1955-56 Minor II	2⅜	All temperatures, MO 30
1955-59 Oxford series II, III, Cowley, Isis	5½	
1957-63 Minor 1000	3	
1960-62 Oxford Mark V	5⅝	
1960-64 Mini, Mini Cooper	②	

DIFFERENTIAL

Model	PINTS	Lubricant
1955-56 Minor II	1⅝	MP
1955-59 Oxford series II, III, Cowley	3¼	Above +10° 90
Isis	4½	Below +10° 80
1957-63 Minor 1000	2	
1960-62 Oxford Mark V	2½	
1960-64 Mini, Mini Cooper	②	

①Includes filter. ②Crankcase, transmission and differential combined.

NSU

CRANKCASE

Model	QUARTS	Lubricant
1958-61 Prinz, Prinz 30, Sport Prinz	3①	MO For Service MS, DG②
1962-64 Prinz 4, Sport Prinz	3①	Above +90° 30
		Above +32° 20
		Below +32° 10W

MANUAL TRANSMISSION

Model	PINTS	Lubricant
1958-64 All	①	

DIFFERENTIAL

Model	PINTS	Lubricant
1958-64 All	①	

①Crankcase, transmission and differential combined.
②DG for Sport Prinz, Prinz 30 and 1962 Prinz 4.

OPEL

CRANKCASE

Model	QUARTS	Lubricant
1958-63 All	3	MO For Service ML or MM
		Above 0° 20
		Below 0° 10W

MANUAL TRANSMISSION

Model	PINTS	Lubricant
1958-63 All	2	All temperatures, EP 80

DIFFERENTIAL

Model	PINTS	Lubricant
1958-63 All	2	All temperatures, HP 90

PEUGEOT

CRANKCASE

Model	QUARTS	Lubricant	
		MO For Service MS	
		Above +90° 40	20W-40
1959-64 403	4¼①	Above +32° 40,30	20W-40
1961-64 404	4¼①	Above +10° 30,20W	20W-40, 10W-30
		Below +10° 10W	10W-30

MANUAL TRANSMISSION

Model	PINTS	Lubricant
1959-60 403	3¼	MO 30 or 40
1961-64 403, 404	3	Above +60°, EP or MP, 90 may be used

DIFFERENTIAL

Model	PINTS	Lubricant
1959-64 403 sedan	3	All temperatures, EP or MP 90
station wagon	3⅝	
1961-64 404	3½	

①Includes filter.

PORSCHE

CRANKCASE

Model	QUARTS	Lubricant
		MO For Service MS
		Above +32° 30
1955-64 All ex. Carrera	3⅛	Above − 5° 20
		Below − 5° 10W

TRANSAXLE

Model	PINTS	Lubricant
		HP
1955-64 All ex. Carrera	7⅜①	Above +32° 90
		Below +32° 80

①Maintain level ½ inch below bottom edge of fill plug hole.

KEY TO LUBRICANTS

EP Extreme Pressure Gear Lubricant
HP Hypoid Gear Lubricant
MO Motor Oil
MP Multi-Purpose Gear Lubricant

IMPORTED CARS
Renault thru Volvo

RENAULT

MODEL	CAPACITY	LUBRICANT	
CRANKCASE	**QUARTS**	**MO** For Service **MS**	
1955-62 4CV	2	Above +32° 20W	10W-30
1956-64 Caravelle, Dauphine,		Above +10° 10W	10W-30
Gordini	2½	Below +10° ...	5W-20
1963-64 Caravelle "S", R-8	2½	Above +10°	10W-30
		Below +10°	5W-20
TRANSAXLE	**PINTS**		
1955-64 All with 3 plugs on bottom	2¼		
2 plugs on bottom	3	All temperatures, **EP** 80①	
1963-64 Caravelle "S", R-8	3		

①If SAE 80 is not available in warm weather, SAE 90 may be used temporarily.

SAAB

MODEL	CAPACITY	LUBRICANT
ENGINE	**QUARTS**	
1956-64 93, 93B, 93F, 95, 96, GT-750	①	Add 1 quart **TO** or **MS** 30 to each 7 or 8 gallons of gasoline. Premium gasoline is recommended for model GT-750. Below +32° dilute oil with gasoline in ratio 1-to-1 before pouring into tank
1963-64 GT-850	3	Reservoir, **TO**
TRANSAXLE	**PINTS**	**MP**
1956-62 93, 93B, 93F, 95, 96, GT-750	4	Above +32° 90
1963-64 All	3	Below +32° 80

①Two-cycle engine, pour oil in tank, then add gasoline.

SIMCA

MODEL	CAPACITY	LUBRICANT	
CRANKCASE	**QUARTS**		
1957-61 Aronde	5	**MO** For Service **MS**	
1957-59 Ariane 4-cyl.	5	Above +32° 30	20W-40
8-cyl.	4½	Above +10° 20W	10W-30, 20W-40
1957-60 Vedette	4½	Above −10° 10W	10W-30, 5W-20
1962-63 Simca 5	5	Below −10° 5W	5W-20
1962-64 1000	2¾	Above +14° 20W-40	
		Below +14° 10W-30	
MANUAL TRANSMISSION	**PINTS**	**MP** or **GL4**	
1957-63 4-cyl.	2¼	Above +20° 80	
8-cyl.	3¼	Below +20° 75	
TRANSAXLE	**PINTS**		
1962-64 1000	4	All temperatures, **MP** 90	
DIFFERENTIAL	**PINTS**	**MP** or **GL4**	
1957-63 4-cyl.	2	Above +20° 90	
8-cyl. ex. Marly	2½	Above −20° 80	
Marly	3	Below −20° 75	

SUNBEAM

MODEL	CAPACITY	LUBRICANT	
CRANKCASE	**QUARTS**	**MO** For Service **MS**	
		Above +70° 30	20W-40
1956-62 Rapier, All	4¼①	Above +20° 20,20W	10W-30
1959-64 Alpine series I, II, III	4¼①	Above + 5° 10W	10W-30
		Below + 5° ...	5W-20
MANUAL TRANSMISSION	**PINTS** Manual O'drive	**MO** For Service **MS**	
1956-62 Rapier, All	3¼ 4¾	Above −10° 30	
1959-64 Alpine series I, II, III	3¼ 4¾	Below −10° 20,20W	
DIFFERENTIAL	**PINTS**	**EP**	
1956-64 All	2	Above −10° 90②	
		Below −10° 80	

①Includes oil filter. ②Spiral bevel, SAE 140 above +32°.

TOYOTA

MODEL	CAPACITY	LUBRICANT
CRANKCASE	**QUARTS**	**MO** For Service **MS** or **DG**
1958-60 Crown, Crown Custom	3¾	Above +90° 40
1961-64 Crown, Crown Custom	4¾	Above +32° 30
Tiara	4¾	Above −10° 20
		Below −10° 10W①
MANUAL TRANSMISSION	**PINTS** Manual O'drive	
1958-60 Crown, Crown Custom	3⅝ —	**GL**
1961-64 Crown, Crown Custom	3⅝ 7¼	Above +50° 140
Tiara	2⅞ —	Below +50° 90

TOYOTA Continued

MODEL	CAPACITY	LUBRICANT
DIFFERENTIAL	**PINTS**	
1958-60 Crown, Crown Custom	2½	**HP**
1961-64 Crown, Crown Custom	3⅝	Above +50° 140
Tiara	2⅝	Below +50° 90

①1958-60 models, SAE 20.

TRIUMPH

MODEL	CAPACITY	LUBRICANT	
CRANKCASE	**QUARTS**	**MO** For Service **MS** or **DG**	
		Above +70° 40	20W-40
1955-64 TR2, TR3, TR3-A, TR3-B,		Above +40° 30	10W-30
TR4	6	Above +10° 20,20W	10W-30
		Below +10° 10W	10W-30
1958-61 TR10 sedan, Estate Wagon	4	Above +80° 30	20W-40
1960-64 Herald, Herald 1200	4	Above +30° 20,20W	10W-30
1963-64 Sport Six, Spitfire	4	Below +30° 10W	10W-30
MANUAL TRANSMISSION	**PINTS** Manual O'drive		
1955-64 TR2, TR3, TR3-A, TR3-B, TR4	1¾ 3¼	**HP** or **GL4** ex. Herald, Herald 1200,	
1958-61 TR10 sedan, Estate Wagon	1¾ —	Sport Six, Spitfire, **GL4**	
1960-64 Herald, Herald 1200	1¾ —	Above +30° 90	
1963-64 Sport Six, Spitfire	1¾ 2¾	Below +30° 80	
DIFFERENTIAL	**PINTS**		
1955-64 TR2, TR3, TR3-A, TR3-B, TR4	1¾	**HP** or **GL4** ex. Herald, Sport Six,	
1958-61 TR10 sedan, Estate Wagon	1¾	Spitfire, **GL4**	
1960-64 Herald, Herald 1200	1¼	Above +30° 90	
1963-64 Sport Six, Spitfire	1¼	Below +30° 80	

VAUXHALL

MODEL	CAPACITY	LUBRICANT	
CRANKCASE	**QUARTS**	**MO** For Service **MS**	
		Above +32° 20W	10W-30
1958-62 Victor	3½	Above 0° 10W	10W-30
		Below 0° 5W	5W-20
MANUAL TRANSMISSION	**PINTS**	**MP**	
		Above 0° 90	
1958-62 Victor	2½	Above −25° 80	
		Below −25° 75①	
DIFFERENTIAL	**PINTS**		
1958-62 Victor	3	All temperatures, **HP** 90	

①Or SAE 80 plus 10% kerosine.

VOLKSWAGEN

MODEL	CAPACITY	LUBRICANT	
CRANKCASE	**QUARTS**	**MO** For Service **MS**	
		Above +90° 30	10W-30
		Above +32° 20,20W	10W-30
1955-64 All	2½	Above −10° 10W	10W-30
		Below −10° 5W	5W-20
TRANSAXLE	**PINTS**		
1955-59 Truck, station wagon	4¼①		
1955-60 Sedan, Karmann-Ghia	4¼	All temperatures, **MP** 90②	
1960-64 Truck, station wagon	5¼①	**GL** 90 may be used	
1961-64 Sedan, Karmann-Ghia	5¼		

①Rear wheel gear cases, ½ pint each. ②Use SAE 80 in arctic climate.

VOLVO

MODEL	CAPACITY	LUBRICANT	
CRANKCASE	**QUARTS**	**MO** For Service **MS**	
1957-62 All ex. B18 engine	3	Above +90° 10W-30③	30
1962-64 B18 engine	3½	Above +32° 10W-30③	20,20W
		Below +32° 10W-30③	10W
MANUAL TRANSMISSION	**PINTS** Manual O'drive	**GL**④	
1957-62 3-speed	1½① —	Above −5° 90	
1958-64 4-speed	1½① 3¼②	Below −5° 80	
		MO 30 may be used	
DIFFERENTIAL	**PINTS**	**MP**	
1957-64 All	2¾	Above −5° 90	
		Below −5° 80	

①Early models with 3-speed nonsynchronized 1st speed, 1 pint; early 4-speed, 2 pints.
②P-1800 with overdrive.
③SAE 10W-30 preferred.
④P-1800 with overdrive, SAE 30 all temperatures.

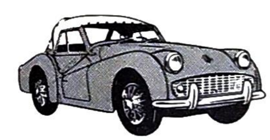
RENAULT DAUPHINE

SAAB 96

SIMCA ARONDE

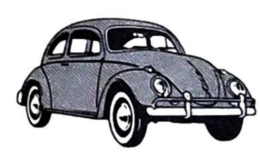
SUNBEAM RAPIER

TOYOTA

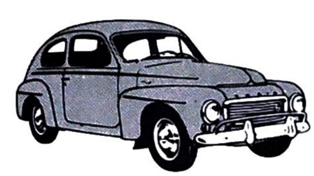


TRIUMPH TR3-A

VAUXHALL VICTOR



VOLKSWAGEN



VOLVO

KEY TO LUBRICANTS

- **EP** Extreme Pressure Gear Lubricant
- **GL** Straight Mineral Gear Lubricant
- **GL4** Multipurpose-Type Gear Lubricant API Service GL4
- **HP** Hypoid Gear Lubricant
- **MO** Motor Oil
- **MP** Multi-Purpose Gear Lubricant
- **TO** Saab Two-Cycle Motor Oil

CHEVROLET TRUCKS

1955-59 Task-Force Series 3100-3800
1960-64 Forward Control Series P20, P30

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1955-59 Task-Force	24	53
	27	72
	24T	70
1958-64 Forward Control	27	72

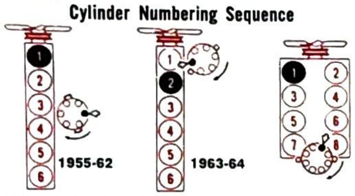
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
6-cyl. engine 130
V-8 engine 140
Maximum variation between cylinders, 20 psi

SPARK PLUGS
AC: 1955, C44; 1956-61, C45; 1962, 6-cyl. C44, 1963-64, 6-cyl. 46N
Gap: .035"
Torque: 20-25 ft. lb.

IGNITION POINTS
Delco
Gap: .016" used; .019" new
Dwell angle: 6-cyl.: 1955-56, 26°-33°; 1957-62, 28°-35°; 1963-64, 31°-34°
V-8: 1955-56, 26°-33°; 1957-59, 28°-32°

CONDENSER
Delco
Capacity: .18-.25 mfd

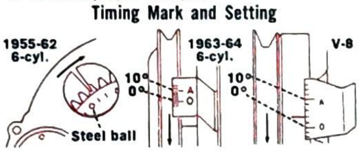
Cylinder Numbering Sequence



Firing Order: 6-cyl. 1, 5, 3, 6, 2, 4
V-8 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower. On 1963-64 6-cyl., use No. 2 spark plug or cap tower and oil pan timing mark tab
4. 6-cyl. 1960-62, Set octane selector to 0° on scale
   6-cyl. 1963-64; All V-8: Disconnect distributor vacuum line and tape manifold opening
5. 6-cyl.: Set idle speed to recommended rpm
   V-8: Set idle speed to 1000 rpm (Both engines, transmission in NEUTRAL)
6. Observe timing mark through opening in flywheel housing, crankshaft pulley or oil pan tab and turn distributor to obtain recommended setting
7. Reconnect vacuum line
8. Reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
6-cyl.: 1955-58, 0° (Steel ball aligned with pointer); 1959-61, 5° (First short radial mark clockwise from steel ball aligned with pointer); 1962, 235 eng., 5° (First short radial mark clockwise from stamped O aligned with pointer); 261 engine, TDC (Stamped O aligned with pointer)
1963-64: 230 eng. 4° (Each line equals 2°)
V-8: 4° except 1962 348 eng., 8° (Each line is 2°)

FUEL PUMP
AC mechanical
Pressure: 6-cyl.: 3½-4½ lb.; V-8: 1955-57, 4-5 lb.; 1958-59, 5¼-6½ lb.; at idle to 1000 rpm
Volume: 1 pint in 30-45 seconds at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (Initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
CARTER			
1-bbl. updraft	½-1½	manual	manual
ROCHESTER			
1955-57 1-bbl. BC	2½	—	index
1955-64 1-bbl. B	1½-2½	manual	manual
1955-56 2-bbl. 2GC	1½	—	index
1955-62 2-bbl. 2G	1½	manual	manual

ENGINE IDLE SPEED
Manual Trans. 475-525 rpm
Auto. Trans. 450-500 rpm in DRIVE

VALVE CLEARANCES
(engine hot)
6-cyl: 1955-56, intake .006"; exhaust .016"
1957-61, intake .006"*; exhaust .018"
1962 235 eng., intake .006"; exhaust .018"
261 eng., intake .006"; exhaust .020"
1963-64, hydraulic lifters, nonadjustable
V-8: Hydraulic lifters, nonadjustable
* 1958, intake .008"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts Without Heater
6-cyl. series 3100-3800 .... 17*
Series P20, P30 .... 17**
8-cyl. series 3100-3800 .... 17½*
* Heavy-duty, add ½ quart
** 1963, 14 quarts; 1964, 13 quarts
Cooling system pressure, 7 pounds

[★] **Generator** (1 or 2 oil cups) .... MO
Alternator, no lubrication

[★] **Power Steering Reservoir** .... AF
Fill to FULL mark on gage

[C] **Manifold Heat Control Valve** .... MH
Lubricate if shaft is not free

Air Cleaner Element .... Service
Oil bath .... Wash and fill MO
Summer, 50; winter, lighter grades
[C] 1955-63, as required [6] 1964
[2] Wire gauze .... Wash and oil MO

[★] **Steering Gear** (plug) .... 90 MP

Fuel Filter Element .... Replace
In carburetor fuel inlet line
[5] 1959-61 8-cyl.
[C] 1962 8-cyl.; 1963-64 6-cyl. 230 engine
Replace only if carburetor flooding occurs

[C] **Gearshift Control Housing** CL
3-speed, 3-speed heavy-duty transmissions
Refill housing if shifting effort increases

[2] **Oil Filter** .... Replace, add extra quart oil
1963-64 P20, P30, right side at front. Other P20, P30, left side, at front. 8-cyl., under truck

[★] **Front Suspension and Steering Linkage** .... (14 fittings) CL

[★] **Clutch and Brake Pedals** CL
Forward Control models: 1 idler lever fitting at this location, 2 pedal fittings located forward. Clutch pedal and idler lever not on Hydra-Matic

[★] **Brake Master Cylinder** (cap) (thru floor) .... HB
Fill to ⅓ inch below filler neck

TRANSMISSION, Manual .... 90 MP, GL
80 grade may be used for extended periods of extremely low temperatures
[★] Maintain level to fill plug hole

CAPACITY, pints	3-Speed	3-Speed H.D.	4-Speed
All models	2*	2¾	6¼

* 3100, 3200 with overdrive, 3 pints
[10] **DRAIN and REFILL**
More often for off-highway or urban service
Overdrive, drain and fill thru transmission

[★] **Universal Joints**
Series 3100-3800 .... 90 MP
Series P20, P30 CL
Center joint on models with 2-section propeller shaft

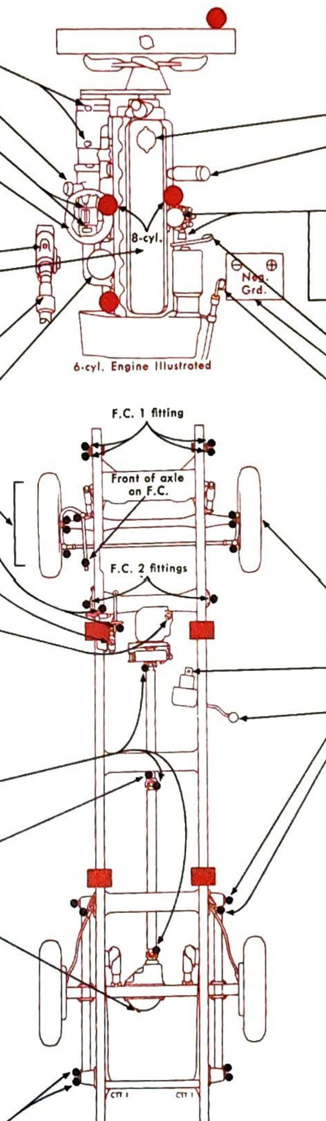
[★] **Universal Joint Spline** CL
Models with 2-section propeller shaft
Others at front joint. Some models, no lubrication

DIFFERENTIAL
Standard Series 3100-3800 .... 90 MP
80 grade may be used for extended periods of extremely low temperatures
Multi-viscosity 80-90 may be used
Standard Series P20, P30 .... MP
Above +100°, 140; above +10°, 90; below +10°, 80
[★] Maintain level to fill plug hole
CAPACITY Series 3100, 3200, 4½ pints; all other models, 6½ pints
[15] **DRAIN and REFILL**
[10] Series P20, P30: Under severe service or continuous high speeds
Positraction .... 90 MP*
[10] **DRAIN and REFILL**
Identification: Circular metal tag under fill plug

[★] **Spring Shackles** CL

GAS TANK .... Gallons
All models 17½*
* Mounted inside frame, 17, outside frame, 18; 3442, P23, P33 and Carryall, 15½; optional P25, P26, P35, P36, 30

Chek-Chart



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO
Above +32° .... 20,20W◆ 10W-30
Above 0° 10W 10W-30
Below 0° 5W 5W-20
◆1960-64, 30 may be used for sustained high speed when prevailing daylight temperature is above +90°
CAPACITY 5 quarts, ex. Trademaster V-8 and 6-cyl. 230 engine, **4 quarts**
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap .... Wash and oil MO [2]
With PCV system, no service

PCV System Valve P20, P30 CC
Remove and clean valve and hose
In valve cover on 6-cyl. 230 engine
1955-63 [10] 1964 [6]

Distributor 1955-62
Shaft, 6-cyl. (grease cup) .... CL [★]
Shaft, 8-cyl. (oil cup) .... MO [★]
Cam lubricator wick .... Replace [C]
Trademaster V-8 eng. At time of point renewal

Distributor Cam Lubricator Wick 6-cyl. 230 eng.
Rotate 180° [12] Replace [24]

Crankcase Dipstick .... Check level

Battery .... Test and fill [★]

TRANSMISSION, Automatic .... AF
Check level, engine idling, NEUTRAL position [★]
1955-57, early 1958, dipstick under floor pan

CAPACITY, quarts	Initial Refill	Total Refill
3800; 1958-59 3400, 3500, 3700; 1960-62 P20, -30 ..	7	9½
1963-64 P20	4½	4½
All other models	6*	8½*

* Add 1 quart if equipped with trans. oil cooler
DRAIN and REFILL
Hydra-Matic .... [25]
Powerglide, not recommended
Remove 1 coupling plug and transmission plug except 1963-64, remove oil pan

Front Wheel Bearings .... Repack WB
1955-59 [10] P20, P30 [30]
Initial torque, 33 ft. lb.; final adjustment, loosen only as necessary to insert cotter pin at next hole line-up. Maximum back-off 1/12 turn

Hydrovac Cylinder .... VO [10]
Fill to plug hole level. 1957-59 series 3100-3800; 1960-62 series P30, left side, outside frame rail

Hydrovac Air Cleaner .... Wash [10]

Spring Bolts .... CL [★]

Parking Brake Cables .... Sparingly CL [★]
Series 3100, 3200, P20 & 3600 with 3-sp. trans.

BRAKE ADJUSTMENT
With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:
1955-62
1. Make certain parking brake cables are slack
2. Expand shoes until light uniform drag is felt when revolving drum
3. Back off adjustment 7 notches on ½-ton models. On ¾- and 1-ton models, back off adjustment until drum turns without drag, but not more than 7 notches: 1961 ½ ton, back off 12 notches
4. Repeat procedure at each wheel

1963-64 P30
1. Expand shoes until light uniform drag is felt when revolving drum
2. Back off adjustment until drum turns freely
3. Repeat procedure at each wheel

1964 P20: Brakes are self-adjusting. Adjustment not normally required
Bleeding sequence: LR, RR, LF, RF
Power brake, power brake rear valve, forward valve (if equipped), then wheels **LR, RR, LF, RF**

KEY TO INTERVALS
[★] Every 1,000 miles
[C] Conditional service
[2] Every 2,000 miles or 2 months
Other symbols indicate intervals in thousands of miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF	Automatic Transmission Fluid, Type A, Suffix A	**GL**	Straight Mineral Gear Lubricant
CC	Carburetor Cleaner	**HB**	Hydraulic Brake Fluid, Heavy-Duty
CL	Chassis Lubricant	**MH**	Graphite mixed with alcohol
		MO	Motor Oil
MP*	Multi-Purpose Gear Lubricant Differential: Meeting Spec. MIL-L-2105B	**VO**	Vacuum Cylinder Oil
WB	Wheel Bearing Grease		

* For Positraction differential, use Special Lubricant Part No. 3758791

CHEVROLET TRUCKS

1960-64 Series C10, C20

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1960	24 24T	53 70
1961-64	24 24T	53, 61 70

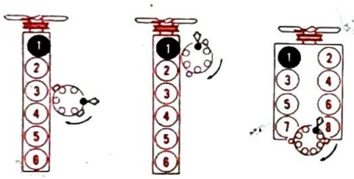
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
6-cyl. 130
V-8 140
Maximum variation between cylinders, 20 psi

SPARK PLUGS
AC: 1960-61, C45; 1962, C46; 1963-64 6-cyl. 230, 46N, 292, C42N; 1960-63 V-8, C45; 1964, 44
Gap: .035"
Torque: 20-25 ft. lb.

IGNITION POINTS
Delco
Gap: .016" used; .019" new
Dwell angle: 6-cyl. 1960-62, 28°-35°; 1963-64, 31°-34°; V-8, 28°-32°

CONDENSER
Delco
Capacity: .18-.25 mfd

Cylinder Numbering Sequence

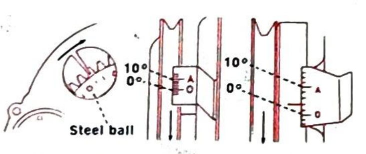


1960-62 1963-64

Firing Order:
6-cyl. 1, 5, 3, 6, 2, 4
V-8 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. 6-cyl. 1960-62, set octane selector to 0° on scale
   6-cyl. 1963-64, V-8: Disconnect distributor vacuum line and tape manifold opening
5. 6-cyl.: Set idle speed to recommended rpm
   V-8: Set idle speed to 1000 rpm (Both engines, transmission in NEUTRAL)
6. Observe timing mark through opening in flywheel housing or at crankshaft pulley and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset idle speed

Timing Mark and Setting



6-cyl. 1960-62 6-cyl. 1963-64 V-8

Timing Setting (Before Top Dead Center):
6-cyl.: 1960-62, 5° (First short radial mark clockwise from steel ball or stamped O aligned with pointer)
1963-64, 4° (Each line equals 2°)
V-8, 4° (Each line equals 2°)

FUEL PUMP
AC mechanical
Pressure: 6-cyl. 3½-4½ lb. except 292 eng. 5¼-6½ lb.; at idle to 1000 rpm
V-8, 5¼-6½ lb. at idle to 1000 rpm
Volume: 1 pint in 30-45 seconds at idle rpm

CARBURETOR ADJUSTMENT

ROCHESTER	Idle Mixture (initial turns)
1-bbl. B	1½-2½
2-bbl. 2G	1½

ENGINE IDLE SPEED
Manual Trans.: 6-cyl. 475-525 rpm; V-8 450-500 rpm
Auto. Trans.: 6-cyl. 475-525 rpm; V-8 425-475 rpm; in DRIVE

VALVE CLEARANCES
(engine hot)
6-cyl.: 1960-62: Intake .006"; exhaust .018"
1963-64: Hydraulic lifters, nonadjustable
V-8: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

Without Heater	1960-61	1962
6-cyl.	17*	17¼*
8-cyl.	17½*	17¾*

* Heavy-duty, add ½ qt.; Powerglide, add ¾ qt.

C10	1963 Std.	1963 P.G.	1963 H.D.	1964 Std.	1964 P.G.	1964 H.D.
230 eng..	11	12	12	12	13½	13
292 eng..	13	13½	13½	13½	14	14
283 eng..	14	15½	15½	18	18½	19
C20						
230 eng..	...	...	...	12	13½	13
292 eng..	13½	...	14	13½	14	15
283 eng..	15½	...	16	19	18½	19

Cooling system pressure: 1960-62, 7 lb.; 1963-64, 13 lb.

[OC] **Oil Fill Cap** .... Wash and oil **MO**
Some 6-cyl. center of valve cover. 8-cyl., left front

★ **Generator** (2 oil cups) .... **MO**
Alternator, no lubrication

Fuel Filter Element .... Replace
In carburetor fuel inlet line
[5] 1960-61 8-cyl.
[C] 1962-64 8-cyl.; 1963-64 6-cyl.

[C] **Manifold Heat Control Valve** .... **MH**
8-cyl., right side, rear
Not on some 292 6-cyl. engines

Air Cleaner Element .... Service
Oil bath .... Wash and fill **MO**
Summer, 50; winter, lighter grades
[C] 1960-63 [6] 1964
Polyurethane ...... Wash and oil 10W **MO**
[4] 1960-63 [6] 1964

★ **Master Cylinder** (cover) .... **HB**
Fill to ½ inch below top of reservoir

PCV System Valve .... **CC**
Remove and clean valve and hose
1963-64, 6-cyl. in valve cover; 8-cyl. at rear of carburetor. Other 6-cyl., right side of block; 8-cyl., rear at breather outlet connector
[10] 1960-63 [6] 1964

★ **Steering Gear** (plug) .... 90 **MP**

★ **Front Suspension and Steering Linkage** .... (16 or 17 fittings) **CL**

★ **Clutch Cross Shaft** 1963-64 .... **CL**

TRANS., Manual .... 90 **MP, GL**
80 grade may be used for extended periods of extremely low temperatures
★ Maintain level to fill plug hole

CAPACITY, pints	3-Speed	3-Speed H.D.	4-Speed
All models	2	2¾	6¼

DRAIN and REFILL
[10] 1960-63
More often for off-highway or urban service
1964 Not recommended

★ **Universal Joint** .... **WB**

[10] **Hydrovac Cylinder** 1960-62 .... **VO**
Fill to plug hole level

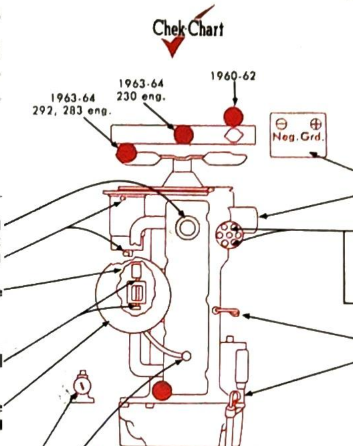
★ **Universal Joint Spline** .... **CL**
At rear of front joint on single section propeller shaft models with 3-speed H.D. and 4-speed trans.

★ **Universal Joint** .... **WB**
Not on single-section propeller shaft

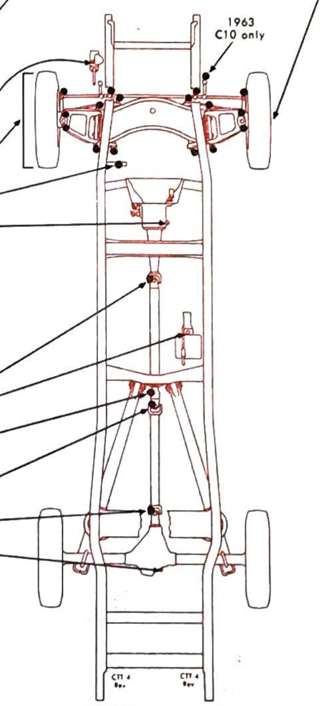
★ **Universal Joint** .... **WB**

DIFFERENTIAL .... **MP***
Above +100°, 140; above +10°, 90; below +10°, 80
Multi-viscosity 80-90 may be used
★ Maintain level to fill plug hole. Some, plug forward
CAPACITY C10, 4½ pints; C20, 6½ pints
DRAIN and REFILL
[15] 1960-63
[10] Severe service or continuous high speeds
1964 Not recommended
POSITRACTION IDENTIFICATION:
Circular metal tag under fill plug

GAS TANK .... Gallons
1960-62 .... 17½*
1963-64 .... 18½*
* Optional, 20½; outside frame, 20



6-cyl. 230 Engine Illustrated



1964 Chassis Illustrated

● Lubrication fitting
● Cooling system drain

CRANKCASE ...... "MS" or "DG" **MO**
Above +32° .... 20,20W◆ 10W-30
Above 0° 10W 10W-30
Below 0° 5W 5W-20
◆30 may be used for sustained high speed when prevailing daylight temperature is above +90°
CAPACITY 6-cyl, 230 engine, 4 quarts; all others, 5 quarts; 8-cyl., 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill ★

Oil Filter ...... Replace, add extra quart oil
1960-63 [4] 1964 [6]

Distributor 1960-62
Shaft, 6-cyl. (grease cup) .... **CL** ★
Shaft, 8-cyl. (oil cup) .... **MO** [5]
Cam lubricator wick, 8-cyl. .... Replace [C]

Distributor Cam Lubricator Wick 1963-64
Rotate 180° [12] Replace [24]

Crankcase Dipstick .... Check level

TRANSMISSION, Automatic .. **AF**
Check level, engine idling, NEUTRAL position ... ★

CAPACITY, quarts	Initial Refill	Total Refill
All models	4½	4½

DRAIN and REFILL Not recommended
1960-62, remove transmission plug only. 1963-64, remove oil pan

Front Wheel Bearings .... Repack **WB**
1960-63 [30] 1964 [36]
1960-62, initial torque, 33 ft. lb.; final adjustment, loosen only as necessary to insert cotter pin
1963-64 C10, initial torque, 15 ft. lb. Back off nut ¼ turn; final adjustment, loosen only as necessary to insert cotter pin. End play 0 to .007"
1963-64 C20, initial torque, 40 ft. lb. Back off nut ⅓ turn; final adjustment, tighten only as necessary to insert cotter pin. End play 0 to .010"

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
1960-62: Follow procedure on Chart CTT-1
Adjust the brakes as follows:
1963: Series C10
1. Disconnect parking brake cables
2. Expand shoes until light uniform drag is felt when revolving drum
3. Back off adjustment 12 notches
4. Repeat procedure at each wheel

1963: Series C20
1. Expand shoes until light uniform drag is felt when revolving drum
2. Back off adjustment until drum turns freely
3. Repeat procedure at each wheel

1964: Brakes are self-adjusting. Adjustment not normally required
Bleeding sequence: LR, RR, LF, RF
Power brake, power brake rear valve, forward valve (if equipped), then wheels **LR, RR, LF, RF**

KEY TO INTERVALS

★ 1960-63, Every 1,000 miles
1964, Every 6,000 miles or 6 months
[4] Every 4,000 miles or 6 months
[5] Every 5,000 miles
[6] Every 6,000 miles
[10] Every 10,000 miles
[12] Every 12,000 miles
[15] Every 15,000 miles
[24] Every 24,000 miles
[30] Every 30,000 miles
[36] Every 36,000 miles
[OC] Every crankcase oil change
[C] Conditional service
Replace fuel filter element only if carburetor flooding occurs
Lubricate manifold heat control valve if shaft is not free
Service oil bath air cleaner as required
Replace distributor cam lubricator wick at time of contact point renewal

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CC Carburetor Cleaner
CL Chassis Lubricant
GL Straight Mineral Gear Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
MH Graphite mixed with alcohol
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
Differential: Meeting Spec. MIL-L-2105B
VO Vacuum Cylinder Oil
WB Wheel Bearing Grease

* Positraction, use same lubricant recommended for standard differential

CHEVROLET TRUCKS

1960-62 Series C30, C40
1963-64 Series C30

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1960	24	53
	24T	70
1961-64	24	53, 61
	24T	70

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
6-cyl. 130
V-8 140
Maximum variation between cylinders, 20 psi

SPARK PLUGS

AC: 1960-61, C45; 1962, C46; 1963-64 6-cyl. 230, 46N, 292, C42N; 1960-63 V-8, C45; 1964, 44
Gap: .035"
Torque: 20-25 ft. lb.

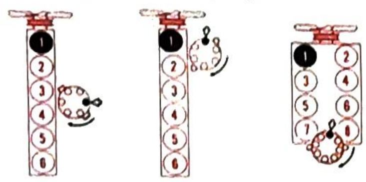
IGNITION POINTS

Delco
Gap: .016", used; .019", new
Dwell angle: 6-cyl. 1960-62, 28°-35°; 1963-64, 31°-34°; V-8, 28°-32°

CONDENSER

Delco
Capacity: .18-.25 mfd

Cylinder Numbering Sequence



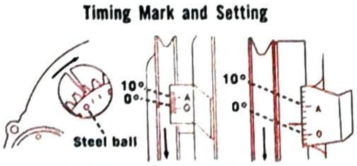
1960-62 1963-64

Firing Order:
6-cyl. 1, 5, 3, 6, 2, 4
V-8 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. 6-cyl. 1960-62, Set octane selector to 0° on scale
   6-cyl. 1963-64, V-8: Disconnect distributor vacuum line and tape manifold opening
5. 6-cyl.: Set idle speed to recommended rpm
   V-8: Set idle speed to 1000 rpm (Both engines, transmission in NEUTRAL)
6. Observe timing mark through opening in flywheel housing or at crankshaft pulley and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset idle speed

Timing Mark and Setting



6-cyl. 1960-62 6-cyl. 1963-64 V-8

Timing Setting (Before Top Dead Center):
6-cyl.: 235 eng. 5° (First short radial mark clockwise from steel ball or stamped O aligned with pointer); 261 eng. TDC (Steel ball or stamped O aligned with pointer), 230, 292 engs. 4°
V-8, 4° (Each line equals 2°)

FUEL PUMP

AC mechanical
Pressure: 6-cyl. 3½-4½ lb. except 292 eng. 5¼-6½ lb.; at idle to 1000 rpm
V-8, 5¼-6½ lb. at idle to 1000 rpm
Volume: 1 pint in 30-45 seconds at idle rpm

CARBURETOR ADJUSTMENT

ROCHESTER	Idle Mixture (initial turns)
1-bbl. B	1½-2½
2-bbl. 2G	1½

ENGINE IDLE SPEED

Manual Trans.: 6-cyl. 475-525 rpm; V-8 450-500 rpm
Auto. Trans.: 6-cyl. 475-525 rpm; V-8 425-475 rpm; in DRIVE

VALVE CLEARANCES

(engine hot)
6-cyl: 235 eng. Intake .006"; exhaust .018"
261 eng. Intake .006"; exhaust .020"
230, 292 engs., Hydraulic lifters, nonadjustable
V-8: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	Without Heater 1960-61	1962
C30 6-cyl.	17*	17½*
8-cyl.	17½*	17¾*
C40 6-cyl.	17½	17¼*
8-cyl.	18	18¼*

* Heavy-duty, add ½ quart

C30	1963 Std.	1963 H.D.	1964 Std.	1964 H.D.
230 engine	11	12	12	13
292 engine	13½	14	13½	15
283 engine	15½	16	19	19

Cooling system pressure: 1960-62, 7 lb.; 1963-64, 13 lb.

[OC] **Oil Fill Cap** .... Wash and oil MO
Some 6-cyl., center of valve cover, 8-cyl., left front

[★] **Generator** (2 oil cups) .... MO
Alternator, no lubrication

Fuel Filter Element .... Replace
In carburetor fuel inlet line
[5] 1960-61 8-cyl.
[C] 1962-64 8-cyl.; 1963-64 6-cyl.

[C] **Manifold Heat Control Valve** .... MH
8-cyl., right side rear
Not on some 292 6-cyl. engines

Air Cleaner Element .... Service
Oil bath .... Wash and fill MO
Summer, 50; winter, lighter grades
[C] 1960-63 [6] 1964
Polyurethane ...... Wash and oil 10W MO
[4] 1960-63 [6] 1964

[★] **Master Cylinder** (cover) .... HB
Fill to ½ inch below top of reservoir

PCV System Valve CC
Remove and clean valve and hose
1963-64, 6-cyl. in valve cover; 8-cyl. at rear of carburetor. Other 6-cyl., right side of block; 8-cyl., rear at breather outlet connector
[10] 1960-63 [6] 1964

[★] **Steering Gear** (plug) .... 90 MP

[★] **Front Suspension and Steering Linkage** .... (16 fittings) CL

[★] **Clutch Cross Shaft** 1963-64 C30 CL

TRANSMISSION .... 90 MP, GL

80 grade may be used for extended periods of extremely low temperatures
[★] Maintain level to fill plug hole

CAPACITY, pints	3-Speed H.D.	4-Speed
C30	2¾	6¼
C40	...	6¼

DRAIN and REFILL
[10] 1960-63
More often for off-highway or urban service
1964 Not recommended

[10] **Hydrovac Cylinder** 1960-62 .... VO
Fill to plug hole level. Some, right side

[10] **Hydrovac Air Cleaner** 1960-62 .... Wash
Some, right side

[★] **Speedometer Adapter** CL

[★] **Universal Joint** .... WB

[★] **Universal Joint Spline** CL

[★] **Universal Joints** .... WB

[★] **Spring Bolts** CL

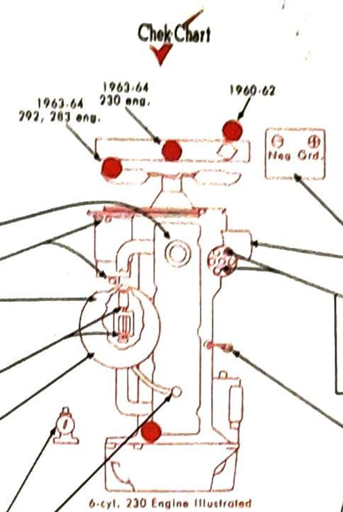
DIFFERENTIAL .... MP

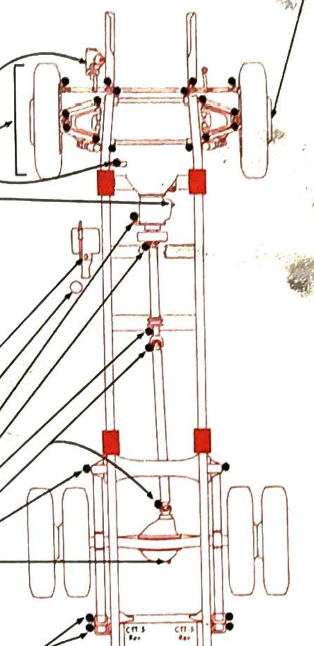
Above +100°, 140; above +10°, 90; below +10°, 80
Multi-viscosity 80-90 may be used
[★] Maintain level to fill plug hole
CAPACITY C30, 6½ pints; C40, 14 pints
DRAIN and REFILL
[15] 1960-63
[10] Severe service or continuous high speeds
1964 Not recommended

[★] **Spring Shackles** CL

GAS TANK .... Gallons

1963-64 C30 .... 18½*
All others 17½*
* Optional, 20½; outside frame, 20





Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE ...... "MS" or "DG" MO

Above +32° .... 20,20W◆ 10W-30
Above 0° 10W 10W-30
Below 0° 5W 5W-20
◆30 may be used for sustained high speed when prevailing daylight temperature is above +90°
CAPACITY 6-cyl., 230, 4 quarts; all others, 5 quarts; 8-cyl., 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill [★]

Oil Filter .... Replace, add extra quart oil
1960-63 [4] 1964 [6]

Distributor 1960-62
Shaft, 6-cyl. (grease cup) .... CL [★]
Shaft, 8-cyl. (oil cup) .... MO [5]
Cam lubricator wick .... Replace [C]
Trademaster V-8

Distributor Cam Lubricator Wick 1963-64 C30
Rotate 180° [12] Replace [24]

Crankcase Dipstick .... Check level

Front Wheel Bearings .... Repack WB
1960-63 [30] 1964 [36]
1960-62, initial torque, 33 ft. lb.; final adjustment, loosen only as necessary to insert cotter pin
1963-64 C30, initial torque, 40 ft. lb. Back off nut ⅓ turn; final adjustment, tighten only as necessary to insert cotter pin. End play 0 to .010"

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:

1960-62: 30 series, Front and rear; 40 series, Front
1. Make certain parking brake cables are slack
2. Expand shoes until light drag is felt when revolving drum
3. Back off adjustment until drums turn freely, but not more than 7 notches; 1961 ½ ton, back off 12 notches

1960-62: 40 series, Rear
1. Two adjustment openings are provided on each backing plate. Use a suitable tool to turn rearmost adjuster until light drag is obtained
2. Back off adjustment 3 notches
3. Repeat steps 1 and 2 for forward adjuster
4. Repeat procedure at each wheel

1963-64: 30 series
1. Expand shoes until light drag is felt when revolving drum
2. Back off adjustment until drum turns freely
3. Repeat procedure at each wheel

Bleeding sequence: LR, RR, LF, RF
Power brake rear valve, forward valve (if equipped), then wheels **LR, RR, LF, RF**

KEY TO INTERVALS

[★] 1960-63, Every 1,000 miles
1964, Every 6,000 miles or 6 months
[4] Every 4,000 miles or 6 months
[5] Every 5,000 miles
[6] Every 6,000 miles
[10] Every 10,000 miles
[12] Every 12,000 miles
[15] Every 15,000 miles
[24] Every 24,000 miles
[30] Every 30,000 miles
[36] Every 36,000 miles
[OC] Every crankcase oil change
[C] Conditional service
Replace fuel filter element only if carburetor flooding occurs
Lubricate manifold heat control valve if shaft is not free
Service oil bath air cleaner as required
Replace distributor cam lubricator wick at time of contact point renewal

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CC Carburetor Cleaner
CL Chassis Lubricant
GL Straight Mineral Gear Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
MH Graphite mixed with alcohol
MO Motor Oil
MP Multi-Purpose Gear Lubricant
Differential: Meeting Spec. MIL-L-2105B
VO Vacuum Cylinder Oil
WB Wheel Bearing Grease

CHEVROLET CORVAIR 95

1961-64 All Models Including Greenbrier

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1961-63	53	35, 42
1964	53	42

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
All 130
Maximum variation between cylinders, 20 psi

SPARK PLUGS

AC: Turbo-Air, 46FF; Super Turbo-Air, 44FF
Gap: .035" except 1964 Super Turbo-Air, .030"
Torque: 1961-63, 20-25 ft. lb.; 1964, 15-20 ft. lb.

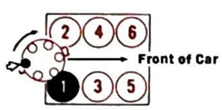
IGNITION POINTS

Delco
Gap: .016" used; .019" new
Dwell angle: 31°-34°

CONDENSER

Delco
Capacity: .18-.25 mfd

Cylinder Numbering Sequence

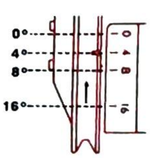


Firing Order: 1, 4, 5, 2, 3, 6

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft pulley and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
1961-63: Man. Trans. 4°; Auto. Trans. 13°
1964: Turbo-Air, Man. Trans. 6°; Auto. Trans. 14° Super Turbo-Air, Man. Trans. 14°; Auto. Trans. 14°

FUEL PUMP

AC mechanical
Pressure: 4-5 lb. at idle to 1000 rpm
Volume: 1 pint in 30-45 seconds at idle rpm

CARBURETOR ADJUSTMENT

ROCHESTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
(2) 1-bbl. H	1½	manual*	manual*

* 1962, index; 1963-64, 2 turns up from free entry in choke lever

ENGINE IDLE SPEED

Manual Trans. 475-525 rpm*
Auto. Trans. 475-525 rpm in DRIVE
* 1962-64 Super Turbo-Air, 575-625 rpm

VALVE CLEARANCES

Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Steering Gear (plug)....................SG
Maintain level to fill plug hole
★ 1961-63 [36] 1964

★ **Drag Link** CL

★ **Clutch and Brake Pedals**...............CL

★ **Brake Master Cylinder** (plug or cap).......HB
Service thru floor of driver's compartment
Fill to level mark or ¼ inch below top of reservoir

★ **Gearshift Control Linkage** (1 or 2 fittings)...CL
1964, no lubrication

★ **Front Suspension and Steering Linkage**.....(10 or 11 fittings) CL

Clutch Linkage ....Coat WG
[5] 1961-62 ★ 1963-64

Gearshift Control Shaft Connector....Coat WG
[5] 1961-62 [12] 1963-64

TRANSMISSION, Manual..80 MP
Multi-viscosity 80-90 may be used
★ Maintain level to fill plug hole
CAPACITY 3-speed, 2 pints; 4-speed, 3 pints
DRAIN and REFILL
[10] 1961-62
1963-64 Not recommended

Universal Joints Both sides.......Repack WB
[25] 1961-62 [30] 1963
More often under adverse conditions
1964, no service required

DIFFERENTIAL............80 MP*
Multi-viscosity 80-90 may be used
★ 1961-63, maintain lubricant level to fill plug hole
1964, check lubricant level with axle dipstick located in engine compartment, when checking crankcase. Manual transmission models, add lubricant thru fill hole in transmission to level plug hole in differential. Powerglide models, fill thru level plug hole in differential
CAPACITY 1961-62, 3 pints; 1963-64, 4½ pints
DRAIN and REFILL
[10] 1961-62
1963-64 Not recommended
POSITRACTION IDENTIFICATION:
Circular metal tag under fill plug

GAS TANK..................Gallons
All models 18½

TIRES...........Pressure

	Front	Rear
7.00-14, 4 ply	24	30
7.00-14, 6 ply	24	34
7.00-14, 6 ply*	24	45
7.00-14, 8 ply*	24	60

* Light truck type

Rotate tires, Method B, then balance wheels
[5] 1961-62 [6] 1963-64

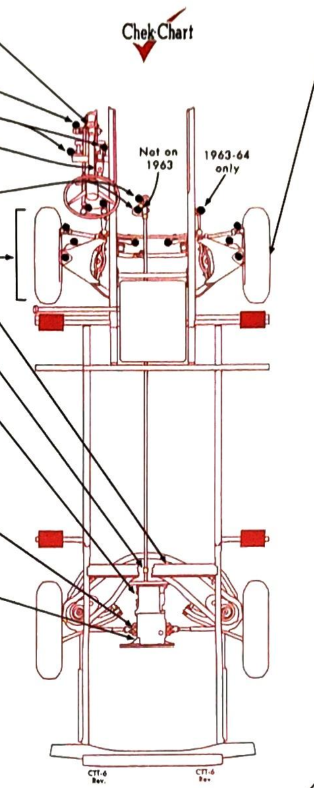
Fuel Filter Element Both sides........Replace
Located in carburetor fuel line
[15] 1961, if flooding occurs replace more often
[C] 1962-64

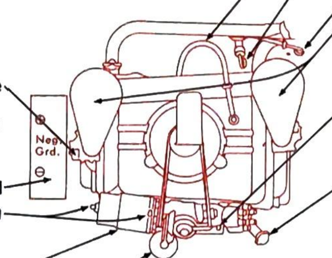
★ **Battery**......................Test and fill

Generator (2 oil cups)..................MO
Do not overfill cup near pulley
★ 1961-62 [12] 1963-64

Engine Oil Cooler...................Clean
Remove cover, clean with brush or compressed air
[5] 1961-62 [12] 1963-64

Oil Filter..........Replace, add extra pint oil
[4] 1961-62 ★ 1963-64





Position for lift adapter
● Lubrication fitting

Front Wheel Bearings............Repack WB
1961-62 [10] 1963 [30] 1964 [36]
Initial torque, 15 ft. lb.; final adjustment, back off 1 full flat, ¼ turn. If slot and hole do not align, back off ½ flat or less. Final adjustment should be 0 (no preload) to .007" end play

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:
1961-62
1. Loosen parking brake cable adjustment nut
2. Using a suitable tool inserted into adjustment slot in backing plate, expand shoes until a heavy uniform drag is felt when revolving drum
3. Back off adjustment 12 notches on the front brakes and 15 notches on rear brakes
4. Repeat procedure at each wheel
5. Readjust parking brake cable

1963-64: Brakes are self-adjusting. Adjustment is not normally required
Bleeding sequence: LR, RR, RF, LF

KEY TO INTERVALS

★ 1961-62, Every 1,000 miles
1963-64, Every 6,000 miles or 6 months
[2] Every 2,000 miles
[4] Every 4,000 miles or 6 months
[5] Every 5,000 miles
[6] Every 6,000 miles
[10] Every 10,000 miles
[12] Every 12,000 miles
[15] Every 15,000 miles
[24] Every 24,000 miles
[25] Every 25,000 miles
[30] Every 30,000 miles
[36] Every 36,000 miles
[OC] Every crankcase oil change
[C] Conditional service
Replace fuel filter elements only if carburetor flooding occurs

PCV System Valve......................CC [OC]
Remove and clean valve and hose

TRANSMISSION, Automatic..AF
Check level, engine idling, NEUTRAL position... ★
CAPACITY, refill approx. 3 quarts
Do not overfill
DRAIN and REFILL Not recommended
Disconnect fill tube

Axle Dipstick 1964.............Check level

Air Cleaner Elements...............Service
Polyurethane.......Wash and oil 10W MO
1961-62 [2] 1963-64 ★
Oil bath..............Wash and fill MO ★
Summer 50, winter 20

Distributor Shaft (oil cup) 1961 ......10W MO ★

Distributor Cam Lubricator Wick 1963-64
Rotate 180° ....[12]
Replace ....[24]

Crankcase Dipstick..............Check level
Attached to oil fill cap

Oil Fill Cap

CRANKCASE.............."MS" MO

Above +32°	30	10W-30
Above −10°	10W	10W-30
Below −10°	5W	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A, Suffix A
- **CC** Carburetor Cleaner
- **CL** Water Resistant EP Chassis Lubricant
- **HB** Hydraulic Brake Fluid, Heavy-Duty
- **MO** Motor Oil
- **MP*** Multi-Purpose Gear Lubricant Meeting Specification MIL-L-2105B
- **SG** Steering Gear Lubricant
- **WB** Wheel Bearing Grease
- **WG** White Waterproof Grease

* Positraction, use same lubricant as standard axle

DODGE TRUCKS

1961-64 R and S Series D100, P100, D200, P200, D300, P300

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1961-63	24H	50
1964	24H	48

COMPRESSION PRESSURE

(psi at cranking speed, throttle open)

		min.	max.
1961	6-cyl.	130	160
1962-64	6-cyl. Manual Trans.	130	160*
	Auto. Trans.	110	140**
1961	8-cyl.	120	160
1962-64	8-cyl. Manual Trans.	120	160***
	Auto. Trans.	110	140**

* Maximum variation between cylinders, 15 psi
** Maximum variation between cylinders, 20 psi
*** Max. variation: 1962-63, 15 psi; 1964, 20 psi

SPARK PLUGS

Champion: 6-cyl., N-6; V-8, J-10Y
Gap: .035"
Torque: 30 ft. lb.

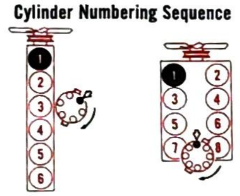
IGNITION POINTS

Prestolite, 1961 V-8; Chrysler, 6-cyl., 1962-64 V-8
Gap: 6-cyl., .017"-.023"; 8-cyl., .014"-.019"
Dwell angle: 6-cyl., 40°-45°; 8-cyl., 1961-62, 27°-32°; 1963-64, 28°-33°

CONDENSER

Prestolite, 1961 V-8; Chrysler, 6-cyl., 1962-64 V-8
Capacity: .25-.285 mfd

Cylinder Numbering Sequence



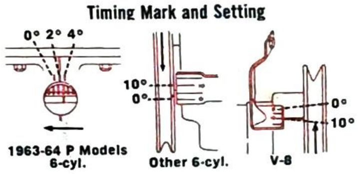
Firing Order:
6-cyl. 1, 5, 3, 6, 2, 4
8-cyl. 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed to 500 rpm, 6-cyl.; 475-500 rpm, 8-cyl., transmission in NEUTRAL
6. Loosen clamp screw, turn distributor until specified timing mark and pointer are aligned*
7. Retighten distributor clamp and recheck alignment of timing mark
8. Reconnect vacuum line and reset to proper idle speed

* 1963-64 P Models 6-cyl.: Remove rubber plug at top center of clutch housing

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 6-cyl., 2½°; 8-cyl., 10°

FUEL PUMP

Carter model: 6-cyl., M-2996S; 8-cyl., M-2611S
Pressure: 6-cyl., 3½-5 lb. at idle rpm; 8-cyl., 5-7 lb. at idle rpm
Volume: 1 quart per minute at idle rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Auto. Trans.
BALL & BALL		
1-bbl. BBS	1	index* **
STROMBERG		
2-bbl. WW3	1¼-1⅜	index*

* Choke should not be field calibrated. Replace unit if defective
** 1963-64, 2 rich

ENGINE IDLE SPEED

Manual Trans.: 6-cyl., 550 rpm; 8-cyl., 500 rpm; with headlights on high beam
Auto. Trans.: 6-cyl., 550 rpm; 8-cyl., 500 rpm; with headlights on high beam

VALVE CLEARANCES

(engine hot and running)
6-cyl.: Intake .012"; exhaust .024"
8-cyl.: Intake .012"; exhaust .022"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
6-cyl.	14	13
8-cyl.	21	20

Cooling system pressure, 7 pounds

[★] **Power Steering Reservoir** Some 8-cyl. ...... PS
Fill to bottom of filler neck or level mark

[★] **Battery** .... Test and fill
P models, under floor at right frame rail

Crankcase Dipstick .... Check level
8-cyl., right side, front

Air Cleaner Element .... Service
[10] Dry type .... Clean
[20] Dry type .... Replace
[★] Oil bath .... Check
[C] Oil bath .... Wash and fill MO
Above +32°, 30; below +32°, 10W

[4] **Manifold Heat Control Valve Shaft** .... MH
8-cyl., right side, center

[★] **Steering Gear** (plug)
Forward of axle on P100, P200, P300; under truck
D100, D200, D300 .... SG
Fill to cover worm gear
P100, P200, P300 .... MP
Above –10°, 90; below –10°, 80

[★] **Gearshift Control Levers** CL
Models with 3-speed transmission except D300

[★] **Clutch Master Cylinder** (cover or plug) ..... HB
Fill to ¼ inch below top of reservoir
P100, P200, P300, service thru floor

[★] **Brake Master Cylinder** (cover or plug) ...... HB
Fill to ¼ inch below top of reservoir
P100, P200, P300, service thru floor

[C] **Automatic Trans. Filter** (under truck) ... Replace
1962-63 only

[★] **Front Suspension and Steering Linkage** ..... (10 or 11 fittings) CL

[★] **Clutch and Brake Pedal Shaft** CL
P100, P200, P300 only
Automatic transmission, 1 fitting, brake pedal

[★] **Parking Brake Control Lever** (oil hole) ...... MO

TRANSMISSION, Manual

[★] Maintain level to fill plug hole. Some right side
1963-64 3-spd. A745 after No. 1252053 .... AF
Others .... "MS" MO, GL
Above +90°, 50 or 140; above +32°, 50 or 90; below +32°, 30 or 80
CAPACITY 3-spd.: 3¼ pints ex. D-300, P-300, 6 pints. 4-spd.: 5½ pints ex. early 1964, 7 pints
[20] DRAIN and REFILL

[4] **Power Brake Air Cleaner** .... Replace
Located inside driver's compartment

[★] **Spring Bolts** CL
D100, P100, D200, P200, no lubrication

DIFFERENTIAL .... MP*

Above +90°, 140; above –10°, 90; below –10°, 80
[★] Maintain level to fill plug hole
D200, D300, P200, P300, plug on rear cover
CAPACITY D100, P100, 4 pints; D200, P200, 5½ pints; D300, P300, 6 pints
[20] DRAIN and REFILL
FULL-TRACTION IDENTIFICATION:
Metal tag attached to housing near fill plug

Rear Wheel Bearings .... Check WB
Clean and repack if necessary. Remove axle shafts
[10] 1961-63 [C] 1964

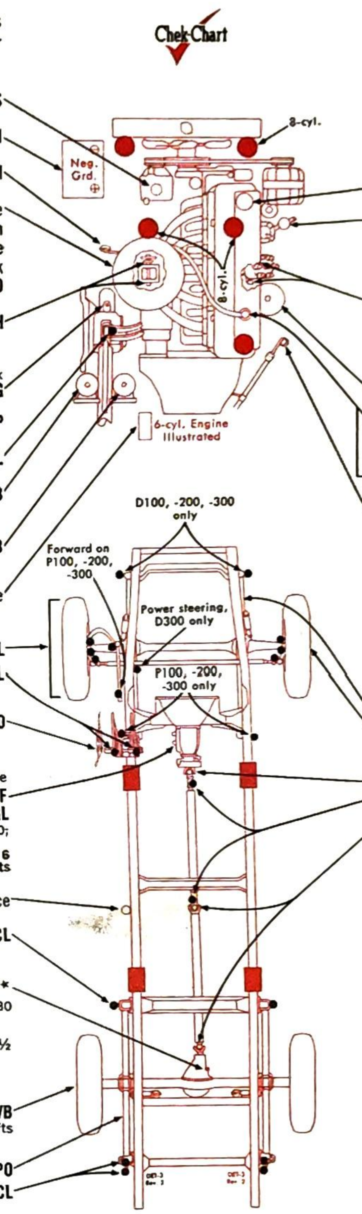
[★] **Springs** .... Coat PO

[★] **Spring Shackles** CL
D100, P100, D200, P200, no lubrication

GAS TANK .... Gallons

D100, D200	18*
D300	18◆
P100, P200, P300	15¼

* Town Panel, Town Wagon, Cowl, 17
◆Cowl, 15¼



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO

Above +32°	30	20W-40
Above +10°	20W	20W-40●, 10W-30
Above –10°	10W	10W-30, 10W-20●, 5W-20
Below –10°	...	5W-20

● Not recommended for 1964 models
CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap .... Wash and oil 30 MO [★]
8-cyl., left side, front

Fuel Filter
Ceramic element .... Clean [★]
8-cyl., right front at top
Paper element 1961, 1964 .... Replace [10]
In front of carburetor

Distributor Shaft (oil cup) .... MO
8-cyl., rear center
1961-63 [★] 1964 [12]
Wick under rotor .... Sparingly MO
1961-63 [10] 1964 [12]

Oil Filter .... Replace [4]
Add extra quart oil. 8-cyl., reach under truck

PCV System Valve .... CC [4]
Some 1962, all 1963, 1964 California vehicles, disassemble and clean. Other 1964, replace valve if clogged or at least once a year; do not clean
Crankcase Breather Outlet Element ... Wash [★]
Some 1961-62. Wash entire draft tube assembly

TRANSMISSION, Automatic .. AF

[★] Check level, engine idling and thoroughly warm, NEUTRAL position
To overcome difficult starting below –10°, replace 1 quart fluid with kerosine. Do not dilute more than once during any one season

CAPACITY, quarts	Initial Refill	Total Refill
1961	5	10½
1962-64	5	9

[20] DRAIN and REFILL
Remove 1 converter plug; 1961, disconnect fill pipe; 1962-64, remove drain plug
Drain more frequently under severe service
1964, replace internal filter at time of transmission drain

Springs .... Coat PO [★]

Front Wheel Bearings .... Check WB
Clean and repack if necessary
1961-63 [10] 1964 [C]

Universal Joint .... Repack UJ [20]

Universal Joint Splines .... CL [★]
Center spline on models with 2 propeller shafts

Universal Joints .... Repack UJ [20]
Center joint on models with 2 propeller shafts

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:

1. Using a suitable tool inserted into adjustment opening in backing plate, expand shoes until wheel can just be turned by hand
2. Back off adjustment 7-9 notches or until wheel turns freely without drag
3. Repeat procedure at each wheel

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

[★] Every 2,000 miles
[4] Every 4,000 miles
[10] Every 10,000 miles
[12] Every 12,000 miles
[20] Every 20,000 miles
[C] Conditional service
Wash and fill oil bath air cleaner when dirt reaches lower offset
Replace automatic transmission filter at time of transmission drain
Check rear wheel bearings when axle shaft is removed. Clean and repack if necessary
Check front wheel bearings when wheel is removed for service. Clean and repack if necessary

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CC Carburetor Cleaner
CL Chassis Lubricant
GL Straight Mineral Gear Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty SAE 70R3
MH Manifold Heat Control Valve Solvent MoPar Part No. 1879318
MO Motor Oil
MP* Multi-Purpose Gear Lubricant Meeting MIL-L-2105 or MIL-L-2105B
PO Penetrating Oil
PS Power Steering Fluid MoPar Part No. 2084329
SG Steering Gear Lubricant
UJ Universal Joint Grease Grade 0
WB Wheel Bearing Grease

* Full-Traction, use same lubricant recommended for standard differential

FORD TRUCKS

1961-64 F-100, P-100

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1961	29NF	55
	27F	70
1962-63	22NF	40
	29NF	55
1964	29NF	55
	27F	70

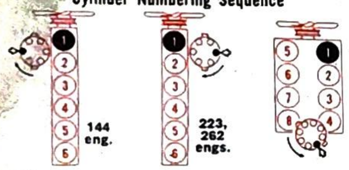
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
144 engine 150-190
Others 130-170
Maximum variation between cylinders, 20 psi

SPARK PLUGS
Autolite: 144 eng. BF82; 223 eng. BTF6; 262 eng. BTF3 light duty, BTF31 heavy duty; 292 eng. BTF6 light duty, BTF31 heavy duty
Gap: BF82 .032"-.036"; others .028"-.032"
Torque: 15-20 ft. lb.

IGNITION POINTS
FoMoCo
Gap: 6-cyl. .024"-.026"; V-8, .014"-.016"
Dwell angle: 6-cyl., 35°-38°; V-8, 26°-28½°

CONDENSER
FoMoCo Capacity: .21-.25 mfd

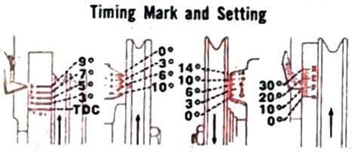
Cylinder Numbering Sequence



Firing Order:
6-cyl. 1, 5, 3, 6, 2, 4 V-8 1, 5, 4, 8, 6, 3, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset idle speed

Timing Mark and Setting



6-cyl. V-8 144 eng. Others
1961-63 1964

Timing Setting (Before Top Dead Center):
1961-62: 6-cyl. 6° (Allowable range, 2°-11°)
V-8, 8° (Allowable range, 2°-13°)
1963: 6-cyl. 4° (Allowable range, 2°-9°)
V-8, 6° (Allowable range, 2°-11°)
1964: 6-cyl.: 144, 223 engs. 4°*; 262 eng. 2°*
V-8, 6°*

* For optimum performance and economy, timing may be advanced to a point just short of audible detonation under road test load but not to exceed 5° over normal setting. Do not retard initial timing advance beyond 2° BTDC

FUEL PUMP
AC mechanical
Pressure: 3½-5½ lb. at 500 rpm
Volume: 1 pint in 30 seconds at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
FORD	
1-bbl.	1-1½
2-bbl.	1-1½
HOLLEY	
1-bbl.	1-1½

ENGINE IDLE SPEED
Manual Trans.
6-cyl.: 1961-62, 500-550 rpm; 1963, 500-525 rpm; 1964, 144 engine, 575-600 rpm, 223, 262 engines, 525-550 rpm
V-8, 500-550 rpm
Auto. Trans. in DRIVE
6-cyl.: 1961-62, 475-525 rpm; 1963, 223 engine, 500-525 rpm, 262 engine, 475-525 rpm; 1964, 223 engine, 525-550 rpm
V-8, 475-525 rpm
Air Cond.: Same rpm as listed, with unit turned ON and in operation for 20 minutes

VALVE CLEARANCES
(engine hot and running)
6-cyl.: 144 engine: Intake .018"; exhaust .018"
223, 262 engines: Intake .019"; exhaust .019"
V-8: Intake .018"; exhaust .018"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

Without Heater	1961-63	1964
6-cyl. F-100	18	13½
262-cu. in. engine	...	20
P-100	18½	18½
144-cu. in. engine	9	9
8-cyl.	21	16½

Cooling system pressure, 7 pounds

Fuel Filter Element .... Replace
8 1961-62 4 1963
32 1964 144-, 262-cu. in. engs. 12 1964 Others
If equipped, clean glass bowl and magnetic filter
Right side on 6-cyl. except 144-cu. in. engine

4 **PCV System Valve** .... Clean
Disassemble and clean all parts; also exhaust line
1961-63 6-cyl., left side; 1964, top of rocker cover

Air Cleaner Element .... Service
4 Dry type .... Clean
24 Dry type .... Replace
4 Oil bath .... Wash and fill MO
Above +32°, 30; below +32°, 20

4 **Oil Filter** (under truck) .... Replace
Add extra quart oil. 6-cyl., right side forward

Steering Gear (plug) F-100 .... SG
P-100, forward .... HP
Above -25°, 90; below -25°, 80
★ 1961-62, 1964 4 1963

★ **Clutch Release Equalizer** F-100 CL
★ **Gearshift Control Lever** P-100 CL
4 **Brake Master Cylinder** (cap or plug) .... HB
Fill to ½ inch below top of fill hole
4 **Clutch Master Cylinder** (cap or plug) .... HB
Fill to ½ inch below top of fill hole. P-100 only

★ **Front Suspension and Steering Linkage** .... (8 fittings) CL

Springs .... Coat PO
8 1961-62 C 1963-64

24 **Speedometer Cable** .... Coat SP

TRANS., Manual .... "MS" MO, GL
Above +10°, 50 or 90; below +10°, 30 or 80
★ Maintain level to fill plug hole
CAPACITY 3-speed light-duty, 2¾ pints, with extension housing, 3½ pints, with overdrive, 3¼ pints; 3-speed medium-duty, 3½ pints; 4-speed, 8 pints
DRAIN and REFILL
10 1961 24 1962-64
Overdrive, check level and drain thru separate plug hole. Fill slowly thru transmission

★ **Universal Joint** CL
Models with 2-section propeller shaft, additional joint, rear of center bearing

★ **Universal Joint Spline** CL
On models with 3-speed medium-duty and 4-speed transmissions. Others, no lubrication
At center joint with 2-section propeller shaft

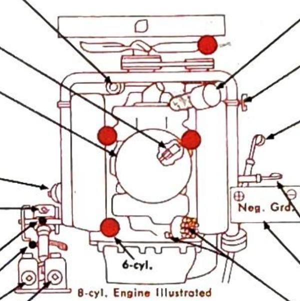
★ **Spring Bolts** P-100 only CL
★ **Universal Joint** CL

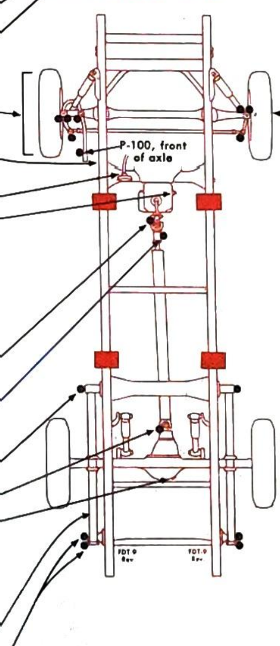
DIFFERENTIAL .... HP*
Above -25°, 90; below -25°, 80
★ Maintain level to fill plug hole
CAPACITY 4½ pints
10 DRAIN and REFILL Not recommended, except 1961-62 Limited-Slip
LIMITED-SLIP IDENTIFICATION:
By A1, A2 appearing under axle listing on plate inside glove box door

Springs P-100 only .... Coat PO
8 1961-62 C 1963-64

★ **Spring Shackles** P-100 only CL

GAS TANK .... Gallons
Frame mounted 17
Cab mounted 18





Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO

Above +90°	40	20W-40
Above +32°	30	10W-30
Above +10°	20,20W	10W-30
Above -10°	10W	10W-30
Below -10°	5W	5W-20

CAPACITY 5 quarts except 144-cu. in. engine, 3½ quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap .... Wash 4
With PCV system, fill slowly to prevent overflow.
6-cyl., top of valve cover

Manifold Heat Control Valve .... MH
Lubricate if shaft is not free. 6-cyl., left side
1961-62 ★ 1963-64 4

TRANSMISSION, Automatic .... FA
Check level, engine idling, PARK position 4

CAPACITY, quarts	Initial Refill	Total Refill
1961-63	5	10
1964 V-8	5	10
6-cyl.	5	9

DRAIN and REFILL Not recommended
Remove 2 converter plugs, disconnect fill pipe
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

Crankcase Dipstick .... Check level
F-100 6-cyl., left side

Battery .... Test and fill ★
P-100, located inside right frame member

Distributor Shaft (oil cup) .... 10W MO
6-cyl., forward
Wick under rotor 8-cyl. .... Sparingly 10W MO
Shaft and Wick 1961-62 4 1963-64 8

Front Wheel Bearings .... Repack WB 24
To adjust, tighten nut until wheel drag is felt
Back off ⅙ to ¼ turn, then lock in nearest slot

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than halfway with power brakes, engine running, the need for service is indicated
1961-63
Adjust the brakes as follows:
1. Expand the shoes until a slight drag is felt when turning the brake drum
2. Back off the adjustment 10-12 notches. Drum should turn freely without drag
3. Repeat procedure at each wheel

1964: Brakes are self-adjusting. Adjustment is not normally required
Bleeding sequence: RR, LR, RF, LF If equipped, bleed power brake cylinder first

KEY TO INTERVALS

- ★ Every 1,000 miles
- 4 Every 4,000 miles
- 8 Every 8,000 miles
- 10 Every 10,000 miles
- 12 Every 12,000 miles
- 24 Every 24,000 miles
- 32 Every 32,000 miles
- C Conditional service

Coat front and rear springs as required

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- CL Chassis Lubricant
- FA Ford Automatic Transmission Fluid — Ford Specification No. M2C33-D
- GL Straight Mineral Gear Lubricant
- HB Hydraulic Brake Fluid, Heavy-Duty
- HP* Hypoid Gear Lubricant — Specs. No. M2C28-B, 90; -A, 80
- MH Manifold Heat Control Valve Solvent — FoMoCo Part No. COAA-19A501-A
- MO Motor Oil
- PO Penetrating Oil
- SG Steering Gear Lubricant — Ford Specification No. ESW-M-1C87-A
- SP Speedometer Cable Lubricant — Ford Specification No. M1C18
- WB Wheel Bearing Grease

* Limited-Slip, use Ford Specifications No. M2C34-A, 90; M2C42-A, 80

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1961	29NF	55
	27F	70
1962-63	22NF	40
	29NF	55
1964	29NF	55
	27F	70

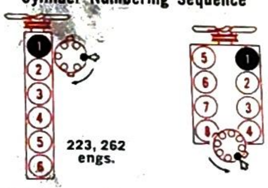
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 130-170
Maximum variation between cylinders, 20 psi

SPARK PLUGS
Autolite: 223 eng. BTF6; 262 eng. BTF3 light duty, BTF31 heavy duty; 292 eng. BTF6 light duty, BTF31 heavy duty
Gap: .028"-.032"
Torque: 15-20 ft. lb.

IGNITION POINTS
FoMoCo
Gap: 6-cyl., .024"-.026"; V-8, .014"-.016"
Dwell angle: 6-cyl., 35°-38°; V-8, 26°-28½°

CONDENSER
FoMoCo Capacity: .21-.25 mfd

Cylinder Numbering Sequence

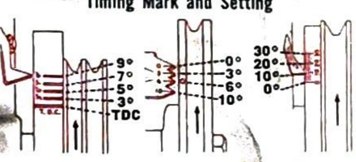


223, 262 engs.

Firing Order:
6-cyl. 1, 5, 3, 6, 2, 4; V-8 1, 5, 4, 8, 6, 3, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset idle speed

Timing Mark and Setting



6-cyl. V-8 6-cyl., V-8
1961-63 1964

Timing Setting (Before Top Dead Center):
1961-62: 6-cyl. 6° (Allowable range, 2°-11°)
V-8, 8° (Allowable range, 2°-13°)
1963: 6-cyl. 4° (Allowable range, 2°-9°)
V-8, 6° (Allowable range, 2°-11°)
1964: 223 eng. 4°*; 262 eng. 2°*
V-8, 6°*
* For optimum performance and economy, timing may be advanced to a point just short of audible detonation under road test load but not to exceed 5° over normal setting. Do not retard initial advance beyond 2° BTDC

FUEL PUMP
AC mechanical
Pressure: 3½-5½ lb. at 500 rpm
Volume: 1 pint in 30 seconds at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
FORD	
1-bbl.	1-1½
2-bbl.	1-1½
HOLLEY	
1-bbl.	1-1½

ENGINE IDLE SPEED
Manual Trans.
6-cyl.: 1961-62, 500-550 rpm; 1963, 500-525 rpm; 1964, 525-550 rpm
V-8, 500-550 rpm
Auto. Trans. in DRIVE
6-cyl.: 1961-62, 475-525 rpm; 1963, 223 eng. 500-525 rpm, 262 eng. 475-525 rpm; 1964, 223 eng. 525-550 rpm
V-8, 475-525 rpm
Air Cond.: Same rpm as listed, with unit turned ON and in operation for 20 minutes

VALVE CLEARANCES
(engine hot and running)
6-cyl.: Intake .019"; exhaust .019"
V-8: Intake .018"; exhaust .018"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM .... Quarts

	Without Heater 6-cyl.	8-cyl.
1961: F-250, F-350	18	21*
1962-64: F-250, F-350	13½*▲	16½*
P-350	18½	22*

* F-350 with dual rear wheels, 6-cyl., 18; 8-cyl., 22
P-350 with dual rear wheels, 23
▲ 262-cu. in. engine, 20
Cooling system pressure, 7 pounds

Fuel Filter Element .... Replace
[8] 1961-62 [4] 1963
[32] 1964 262-cu. in. eng. [12] 1964 Others
If equipped, clean glass bowl and magnetic filter
6-cyl., right side

[4] **PCV System Valve** .... Clean
Disassemble and clean all parts; also exhaust line
1961-63 6-cyl., left side; 1964, top of rocker cover
1963 8-cyl., rear, under air cleaner

Air Cleaner Element .... Service
[4] Dry type .... Clean
[24] Dry type .... Replace
[4] Oil bath .... Wash and fill MO
Above +32°, 30; below +32°, 20

[4] **Oil Filter** (under truck) .... Replace
Add extra quart oil. 6-cyl., right side forward

[★] **Steering Gear** (plug) 350 series .... HP
Above –25°, 90; below –25°, 80
P-350, reach under left fender
[4] 250 series .... SG

[★] **Clutch Release Equalizer** F-250, -350 CL

[★] **Gearshift Control Lever** 350 series CL
Not on 4-speed models

[4] **Brake Master Cylinder** (cap or plug) ...... HB
Fill to ½ inch below top of fill hole
P-350, reach thru floor

[4] **Clutch Master Cylinder** (cap or plug) ...... HB
Fill to ½ inch below top of fill hole
Reach thru access hole or under truck. P-350 only

[★] **Front Suspension and Steering Linkage** ...... (8 or 14 fittings) CL

[★] **Pedal Shaft** P-350 CL

Springs Front and rear .... Coat PO
[8] 1961-62 [C] 1963-64

[24] **Speedometer Cable** .... Coat SP

TRANS., Manual ...... "MS" MO, GL
Above +10°, 50 or 90; below +10°, 30 or 80
[★] Maintain level to fill plug hole
CAPACITY 3-sp. light-duty or medium-duty, 3½ pints; 3-sp. heavy-duty, 5½ pints; 4-sp., 8 pints
DRAIN and REFILL
[10] 1961 [24] 1962-64

Hydrovac Cylinder .... VO
Fill to plug level in end plate. Some 350 series
[8] 1961-62 [C] 1963 [12] 1964

[8] **Hydrovac Air Cleaner Element** .... 10W MO
Wash and oil

[★] **Universal Joint Spline** CL
At front joint on P-350 104-inch w.b. with 3-sp. medium-duty, 3-sp. heavy-duty or 4-sp. trans.
Not on 3-speed light-duty transmission models

[★] **Universal Joints** CL
Center joint not on single section propeller shaft

[★] **Spring Bolts** ex. 1964 F-250, -350 CL

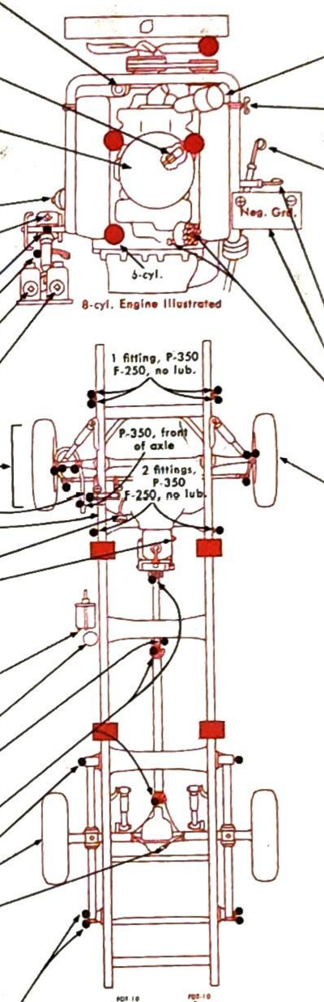
[24] **Rear Wheel Bearings** .... Repack WB
Necessary to remove axle shafts

DIFFERENTIAL .... HP*
Above –25°, 90; below –25°, 80
[★] Maintain level to fill plug hole
CAPACITY 1961-62, 6 pints except F-350; P-350 optional axle, 11 pints. 1963-64, 6 pints except 1964 F-350; P-350 optional axle, 5 pints
DRAIN and REFILL
[10] 1961 [32] 1962-64
LIMITED-SLIP IDENTIFICATION:
By B4, B6 appearing under axle listing on plate inside glove box door

[★] **Spring Shackles** ex. 1964 F-250, -350 CL

GAS TANK .... Gallons

F-250, F-350	18
Without cab	17
P-350, mounted inside frame	17
Mounted outside frame	30



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO

Above +90°	40	20W-40
Above +32°	30	10W-30
Above +10°	20,20W	10W-30
Above –10°	10W	10W-30
Below –10°	5W	5W-20

CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap .... Wash [4]
With PCV system, fill slowly to prevent overflow
6-cyl., top of valve cover

Manifold Heat Control Valve .... MH
Lubricate if shaft is not free. 6-cyl., left side
1961-62 [★] 1963-64 [4]

TRANSMISSION, Automatic .. FA
Check level, engine idling, PARK position .... [4]

CAPACITY, quarts	Initial Refill	Total Refill
1961-63	5	10
1964 V-8	5	10
6-cyl.	5	9

DRAIN and REFILL Not recommended
Remove 2 converter plugs, disconnect fill pipe
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

Crankcase Dipstick .... Check level
6-cyl., left side

Battery .... Test and fill [★]

Distributor Shaft (oil cup) .... 10W MO
6-cyl., forward
Wick under rotor 8-cyl... Sparingly 10W MO
Shaft and Wick 1961-62 [4] 1963-64 [8]

Front Wheel Bearings .... Repack WB [24]
To adjust, tighten nut until wheel drag is felt
Back off ⅙ to ¼ turn, then lock in nearest slot

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than halfway with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:
1. Expand the shoes until a slight drag is felt when turning the brake drum
2. Back off the adjustment 10-12 notches. Drum should turn freely without drag
3. Repeat procedure at each wheel

Bleeding sequence: RR, LR, RF, LF If equipped, bleed power brake cylinder first

KEY TO INTERVALS

[★] Every 1,000 miles
[4] Every 4,000 miles
[8] Every 8,000 miles
[10] Every 10,000 miles
[12] Every 12,000 miles
[24] Every 24,000 miles
[32] Every 32,000 miles
[C] Conditional service
Coat front and rear springs as required
Fill hydrovac cylinder as required

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CL Chassis Lubricant
FA Ford Automatic Transmission Fluid — Ford Specification No. M2C33-D
GL Straight Mineral Gear Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
HP* Hypoid Gear Lubricant — Specs. No. M2C28-B, 90; -A, 80
MH Manifold Heat Control Valve Solvent — Part No. COAA-19A501-A
MO Motor Oil
PO Penetrating Oil
SG Steering Gear Lubricant — Ford Spec. No. ESW-M-1C87-A
SP Speedometer Cable Lubricant — Ford Specification No. M1C18
VO Vacuum Cylinder Oil
WB Wheel Bearing Grease

* Limited-Slip, use Ford Specifications No. M2C34-A, 90; M2C42-A, 80

FORD ECONOLINE

1961-63 All Models

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22NF	40
	24F	55

COMPRESSION PRESSURE

(psi at cranking speed, throttle open)	min.	max.
All	150	190

Maximum variation between cylinders, 10 psi

SPARK PLUGS

Autolite BF82
Gap: .032"-.036"
Torque: 15-20 ft. lb.
Do not use gasket with tapered seat plugs

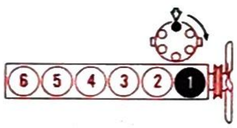
IGNITION POINTS

FoMoCo
Gap: .024"-.026"
Dwell angle: 35°-38°

CONDENSER

FoMoCo
Capacity: .21-.25 mfd

Cylinder Numbering Sequence

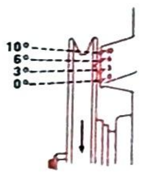


Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft pulley and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 4° (Allowable range, 2°-9°)

FUEL PUMP

AC mechanical
Pressure: 3½-5½ lb. at 500 rpm
Volume: 1 pint in 30 seconds at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
FORD	
1-bbl.	1-1½
HOLLEY	
1-bbl.	1-1½

ENGINE IDLE SPEED

525-575 rpm

VALVE CLEARANCES

(engine hot and running)
Intake .018"; exhaust .018"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
1961	10¾	8¾
1962-63	10½	9

Cooling system pressure, 13-15 pounds

Oil Filter (under truck) .... Replace
Add extra quart oil
[4] 1961-62 [6] 1963

Distributor Shaft (oil cup) .. Sparingly 10W MO
Reached under truck
[12] 1961 [8] 1962-63

Crankcase Dipstick .... Check level

[4] **Battery** .... Test and fill

[8] **Fuel Pump Sediment Bowl and Screen** .... Clean
1961, reached from under truck

[8] **Fuel Filter** .... Replace
1961, right side, forward of carburetor

★ **Brake Pedal** CL
Reached through grille

★ **Gearshift Control Levers** CL
Reached through grille

★ **Drag Link** CL

★ **Steering Gear** (plug) .... SG
Plug reached through opening in toeboard

★ **Clutch Pedal** CL

[12] **Speedometer Cable** .... Coat sparingly WG

★ **Front Suspension and Steering Linkage** .... (7 fittings) CL

★ **Shift Control Rod Bushings** CL
Coat rods at front and rear of bushings

★ **Clutch Equalizer Shaft** CL

TRANSMISSION .... 80 EP
[4] Maintain level to fill plug hole
CAPACITY 1961-62, 2½ pints; 1963, 3 pints
[24] DRAIN and REFILL

★ **Universal Joint** CL

★ **Universal Joint Spline** 1963 only CL

★ **Universal Joint** CL

DIFFERENTIAL .... HP
Above -25°, 90; below -25°, 80
★ Maintain level to fill plug hole
Heavy-duty axle, fill plug at rear
CAPACITY 2½ pints
DRAIN and REFILL Not recommended

GAS TANK .... Gallons

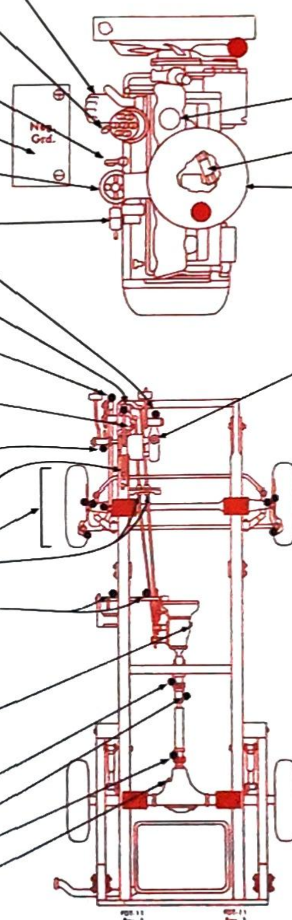
All models	14

TIRES .... Pressure

	Front	Rear
6.50-13	28	28
7.00-13	28	30

[4] Rotate tires, Method A, then balance wheels
More often under severe operation

Chek-Chart



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO

Above +90°	40	20W-40
Above +32°	30	10W-30
Above +10°	20,20W	10W-30
Above −10°	10W	10W-30
Below −10°	5W◆	5W-20

◆ Sustained speeds above 65 mph should be avoided

CAPACITY 3½ quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap .... Wash [4]
With PCV system, fill slowly to prevent overflow

PCV System Valve .... Clean [4]
Disassemble and clean all parts; also, exhaust line

Air Cleaner Element .... Service
Dry type .... Clean [4]
Dry type .... Replace [24]
Every 12,000 to 18,000 miles, extreme dust or sand
Oil bath .... Wash and fill MO
Above +32°, 30; below +32°, 20
1962 [4] 1963 [6]

Brake Master Cylinder (plug) .... HB [4]
Fill to ½ inch below top of reservoir
Reached through plug hole in floorboard

Front Wheel Bearings .... Repack WB
1961 [12] 1962-63 [24]
1961-62, initial torque, 11½-12½ ft. lb.; final adjustment, loosen ⅛ but not more than ⅓ turn
1963, initial torque, 12-15 ft. lb.; then with nut-lock on spindle nut and castellation aligned with hole in spindle, back off both nut and nut-lock together, two castellations and install cotter pin

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than halfway, the need for service is indicated

Adjust the brakes as follows:

1. Disconnect parking brake cable at equalizer
2. Expand shoes until a moderate drag is felt when turning wheel
3. Back off adjustment 10 notches to permit wheel to rotate freely
4. Repeat procedure at each wheel
5. Reconnect parking brake and adjust

Bleeding sequence: RR, LR, LF, RF

KEY TO INTERVALS

★ Every 1,000 miles
[4] Every 4,000 miles
PCV system: Every 4,000 miles or 3 months
[6] Every 6,000 miles
[8] Every 8,000 miles
[12] Every 12,000 miles
[24] Every 24,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CL Chassis Lubricant

EP Mild Extreme Pressure Gear Lubricant
Ford Specification No. M-568-D

HB Hydraulic Brake Fluid, Heavy-Duty

HP Hypoid Gear Lubricant
Ford Specs. No. M2C28-B, 90; M2C28-A, 80

MO Motor Oil

SG Steering Gear Lubricant
Ford Specification No. ESW-M-1C87-A

WB Wheel Bearing Grease

WG White Waterproof Grease

FORD ECONOLINE
1964 All Models

TUNE-UP DATA
See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	22NF	40
	24F	55

COMPRESSION PRESSURE

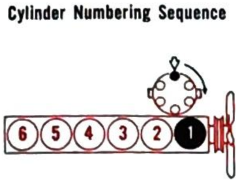
(psi at cranking speed, throttle open) min. max.
All 150 190
Maximum variation between cylinders, 20 psi

SPARK PLUGS
Autolite BF82
Gap: .032"-.036"
Torque: 15-20 ft. lb.
Do not use gasket with tapered seat plugs

IGNITION POINTS
FoMoCo
Gap: .024"-.026"
Dwell angle: 35°-38°

CONDENSER
FoMoCo
Capacity: .21-.25 mfd

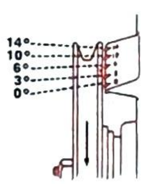
Cylinder Numbering Sequence



Firing Order: 1, 5, 3, 6, 2, 4

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft pulley and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
Manual Trans. 4°*; Auto. Trans. 8°*
* For optimum performance and economy, timing may be advanced to a point just short of audible detonation under road test load but not to exceed 5° over normal setting. Do not retard initial advance beyond 2° BTDC

FUEL PUMP
AC mechanical
Pressure: 3½-5½ lb. at 500 rpm
Volume: 1 pint in 30 seconds at 500 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
FORD	
1-bbl.	1-1½

ENGINE IDLE SPEED
Manual Trans. 575-600 rpm
Auto. Trans. 550-575 rpm in DRIVE
Air Cond.: As listed above but with unit turned ON and in operation for 20 minutes

VALVE CLEARANCES
(engine hot and running)
Intake .018"; exhaust .018"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
All models	10½	9

Cooling system pressure, 13-15 pounds

★ Oil Filter (under truck)..............Replace
Add extra quart oil

12 Distributor Shaft (oil cup)..Sparingly 10W MO
Reached under truck

Crankcase Dipstick..............Check level

★ Battery......................Test and fill

36 Fuel Filter ....Replace

★ PCV System Valve.....................Clean
Disassemble and clean all parts; also exhaust line

★ Brake Pedal ....LM
Reached through grille

★ Gearshift Control Levers................LM
Reached through grille

★ Drag Link ....LM

★ Steering Gear (plug)....................SG
Plug reached through opening in toeboard

★ Clutch Pedal ....LM

12 Speedometer Cable........Coat sparingly WG

★ Front Suspension and Steering Linkage..........(7 fittings) LM

★ Shift Control Rod Bushings...............LM
Coat rods at front and rear of bushings

TRANSMISSION, Manual ..80 EP
★ Maintain level to fill plug hole
CAPACITY 3-speed, 3 pints; 4-speed, 4½ pints
24 DRAIN and REFILL

★ Universal Joint ....LM

★ Universal Joint Spline...................LM

★ Universal Joint ....LM

DIFFERENTIAL ....HP
Above -25°, 90; below -25°, 80
★ Maintain level to fill plug hole
Heavy-duty axle, fill plug at rear
CAPACITY 2½ pints
DRAIN and REFILL Not recommended

GAS TANK ....Gallons
All models 14

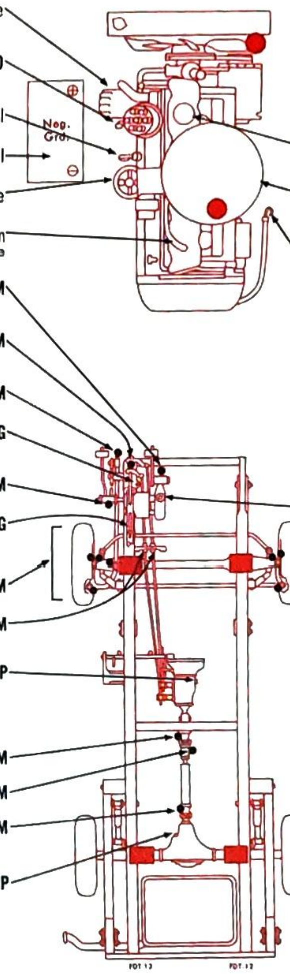
TIRES

	Pressure Front	Rear
6.50-13	28	28
7.00-13	30*	30*
7.00-14	28**	28**

* 8-ply truck type, front 35, rear 45
** 6-ply pass. car type, 30; 8-ply truck type, 35

4 Rotate tires, Method A, then balance wheels
More often under severe operation

Chek-Chart



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE.............."MS" MO

Above +90°..................	40	20W-40
Above +32°..................	30	10W-30
Above +10°..................	20,20W	10W-30
Above -10°..................	10W	10W-30
Below -10°..................	5W◆	5W-20

◆ Sustained speeds above 65 mph should be avoided
CAPACITY 3½ quarts
DRAIN and REFILL
See Service Instructions, page 4

Oil Fill Cap.........................Wash ★
With PCV system, fill slowly to prevent overflow

Air Cleaner Element..................Service
Dry type ....Clean 4
Dry type ....Replace 24
Every 12,000 to 18,000 miles, extreme dust or sand
Oil bath..................Wash and fill MO ★
Above +32°, 30; below +32°, 20

TRANSMISSION, Automatic ..FA
Check level, engine idling, PARK position....... ★

CAPACITY, quarts	Initial Refill	Total Refill
All models	4	7

DRAIN and REFILL Not recommended
Remove 2 converter plugs and oil pan
If M2C33-D is unavailable, not more than 1 quart of Type A, Suffix A may be added

Brake Master Cylinder (plug)...............HB ★
Fill to ½ inch below top of reservoir
Reached through plug hole in floorboard

Front Wheel Bearings............Repack WB 24
Initial torque, 12-15 ft. lb.; then with nut-lock on spindle nut and castellation aligned with hole in spindle, back off both nut and nut-lock together, two castellations and install cotter pin

BRAKE ADJUSTMENT
Brakes are self-adjusting. Adjustment is not normally required

KEY TO INTERVALS
★ Every 6,000 miles
4 Every 4,000 miles
12 Every 12,000 miles
24 Every 24,000 miles
36 Every 36,000 miles

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **EP** Mild Extreme Pressure Gear Lubricant — Ford Specification No. M-568-D
- **FA** Ford Automatic Transmission Fluid — Ford Specification No. M2C33-D
- **HB** Hydraulic Brake Fluid, Heavy-Duty
- **HP** Hypoid Gear Lubricant — Ford Specs. No. M2C28-B, 90; M2C28-A, 80
- **LM** Lithium Grease, with Moly — Ford Specification No. M-1C47
- **MO** Motor Oil
- **SG** Steering Gear Lubricant — Ford Specification No. ESW-M-1C87-A
- **WB** Wheel Bearing Grease
- **WG** White Waterproof Grease

GMC TRUCKS

1955-59 Blue Chip Series 100, 150
1960-62 Forward Control Series P1500
1963-64 Forward Control Series P-, PB1500

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All 1955-59 Blue Chip Series	24	53
1960-64 Forward Control Series	24	53, 61
Optional, All	24T	70

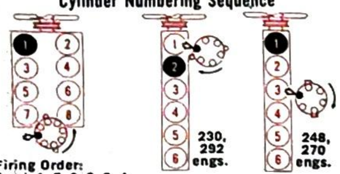
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
6-cyl. 230, 292 engines 130
248, 270 engines 125
V-8 288 engine 115-125
316 engine 120-130
336, 347 engines 125

SPARK PLUGS
AC: 6-cyl. 248, 270 C44; 230 46N; 292 C42N
V-8: 1955, C44; 1956, C46; 1957-59, C45
Gap: 6-cyl. 248, 270 .030"; 230, 292 .035"
V-8: .035"
Torque: 23-27 ft. lb.

IGNITION POINTS
Delco
Gap: .016" used; .019" new
Dwell angle: 6-cyl., 1955 38°-45°; 1956-62 28°-35°; 1963-64 31°-34°
V-8 1955-56 26°-33°, 1957-59 28°-32°

CONDENSER
Delco
Capacity: .18-.23 mfd

Cylinder Numbering Sequence

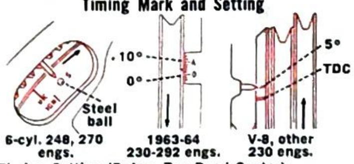


Firing Order:
6-cyl. 1, 5, 3, 6, 2, 4
V-8 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect timing light to No. 1 spark plug or distributor cap tower. On 230 engine, use No. 2 spark plug or cap tower
   230, 292 engs.: Disconnect distributor vacuum line and tape manifold opening
3. Set idle speed to lowest rpm at which the engine will run smoothly
4. Observe timing mark at flywheel or crankshaft* damper and turn distributor to obtain recommended setting
   230, 292 engs.: Reconnect vacuum line
5. Reset to proper idle speed

* 230, 292 engs. in P, PB models: Use oil pan timing tab under vehicle

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
6-cyl.: 248, 270 engs. 5° (steel ball on flywheel aligned with pointer); 230, 292 engs. 4°
V-8 1955-56, 5° (upper line)
1957, 3° (midway between lines)
1958-59, 6° (slightly above upper line)

FUEL PUMP
AC model: 6-cyl. AF, except 1964, 292, EK
V-8 1955, FB; 1956-59, EN
Pressure: 6-cyl.: 248, 270, 4-5½ lb. at 3600 rpm; 230, 292 3½-4½ lb. at 500-1000 rpm
V-8, 4-5¼ lb. at 3600 rpm
Volume: 6-cyl. 1 pint in 45-60 seconds* at idle rpm
V-8, 1 pint in 30 seconds at idle rpm
* 1964: 292, 30-45 seconds

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
HOLLEY			
1-bbl. 1904	1	manual	manual
ROCHESTER			
1-bbl. B	1½-2½	manual	manual
STROMBERG			
2-bbl. WW	1	*	*
ZENITH			
1-bbl. 228BV	1¼	**	**
1-bbl. 63AW11C	1¼	16 rich	16 rich

* 1955, index; 1956, 1 rich
** Carburetor Numbers 0-11854, -11855, -11964, -11965, -11966, -11967, -11968, -12058, -12059 set at 15 notches rich; others, 13 notches rich

ENGINE IDLE SPEED
Manual Trans.: 6-cyl., 248, 270, 400-450 rpm; 230, 500 rpm; 292, 450-500 rpm; V-8, 460 rpm
Auto. Trans. 450* rpm in NEUTRAL
* 1957-59, 400 rpm; 1964, 292, 450-500 rpm

VALVE CLEARANCES
(engine hot and running)
6-cyl.: 248, 270, intake .012"; exhaust .020"
230, 292, Hydraulic lifters, nonadjustable
V-8: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	Without Heater 6-cyl.	8-cyl.
1955-57	...	26
1963-64 P-, PB1500	14	...
All other models	17	25

Cooling system pressure: 1960-62 P1500, 4 pounds; others, 7 pounds

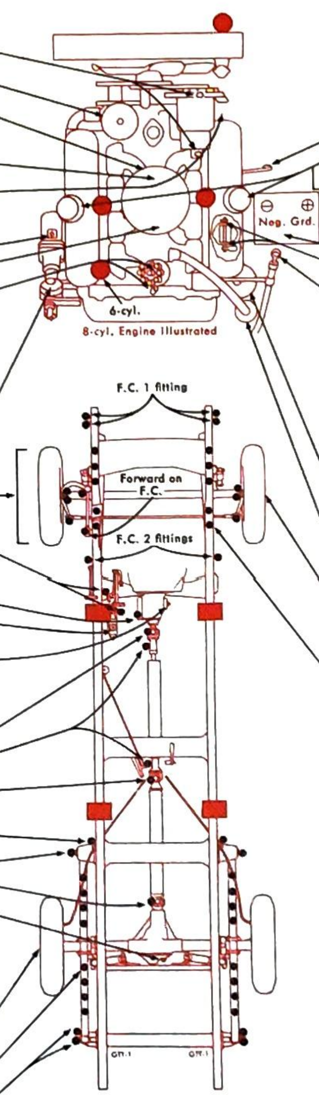
★ **Generator** (2 oil cups) .... MO
6-cyl., left side
★ **Power Steering Reservoir** .... AF
Fill to level mark on reservoir or dipstick
Air Cleaner Element .... Service
2 Oil bath .... Wash and fill MO
2 Wire gauze .... Wash and oil MO
5 **Governor Air Filter Element** .... Wash
Replace as required
Fuel Filter Element .... Replace
5 1955-62 models
C 1963-64 models, in carburetor fuel inlet
★ **Steering Gear** (plug) .... SG
10 **PCV System Valve** .... Wash CC
230-cu. in. engine in valve cover
★ **Distributor Shaft** (oil cup) 8-cyl. .... MO
6-cyl. (grease cup) (right side) .... WB
1963-64, no lubrication
1955-56 8-cyl.: Wick under rotor .... MO
Felt under plate (oil hole). MO
Sparingly
Cam lubricator wick
1963-64 P-, PB1500 only
10 Rotate 180° 20 Replace
C **Gearshift Control Housing** (plug) .... Fill CG
3-speed transmissions only
★ **Front Suspension and Steering Linkage** .... (14 fittings) CL
All drag link, king pin and tie rod fittings, below 0° operation, SG or MP
★ **Clutch and Brake Pedals** CL
PM150; P-, PB1500 series: 1 Idler Lever fitting at this location, 2 pedal fittings located forward. Clutch Pedal and Idler, not on auto. trans.
★ **Speedometer Adapter** (fitting or grease cup) . CL
★ **Brake Master Cylinder** (plug) (thru floor) .... HB
Fill to ½ inch below top of fill hole

TRANSMISSION, Manual .... MP
Above 0°, 90; below 0°, 80
★ Maintain level to fill plug hole
CAPACITY 3-speed, 2 pints; 3-speed heavy-duty, 2¾ pints; 4-speed, 6 pints
10 DRAIN and REFILL
★ **Universal Joint** .... 140 GL
★ **Universal Joint Splines** CL
Only some models have fitting at center
★ **Universal Joint** .... 140 GL
Models 102, 152 with 3-speed heavy-duty or 4-speed transmission; PM152, -153; P-, PB1502, -1503
★ **Parking Brake Cables** CL
Not on 1955-58 PM150 series with automatic trans.
★ **Spring Bolts** CL
★ **Universal Joint** .... 140 GL

DIFFERENTIAL .... MP*
Above +100°, 140; above 0°, 90; below 0°, 80
★ Maintain level to fill plug hole
CAPACITY 100 series: Spicer 44, 3 pints; Spicer 45, 3½ pints; all other models, 4½ pints; 150, 1500 series: Spicer 60, HO55, 5½ pints; all other models, 6½ pints
10 DRAIN and REFILL
POWR-LOK IDENTIFICATION:
Metal tag attached to housing near fill plug
20 **Rear Wheel Bearings** .... Repack CG
1960-64 P1500 series
Necessary to remove axle shafts
★ **Road Damper Spring** (8 fittings) Both sides . . CL
On Suburban, optional on other 100 series
★ **Spring Shackles** CL

GAS TANK .... Gallons

PM151; P-, PB1501	15½
PM152, -153; P-, PB1502, -1503	18
Side mounted	17
All other models	17½



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "DG" MO
Severe start-and-stop cold-weather operation, "DM" may be used
Above +90° 30
Above +32° 30,20
Above +10° 20W
Above −10° 10W
Below −10° 5W
CAPACITY 6-cyl., 8 quarts, 1963-64 230-cu. in. engine, 4 quarts; 8-cyl., 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Crankcase Dipstick .... Check level
Oil Fill Caps 8-cyl. .... Wash and oil MO OC
6-cyl., located forward. No service required
Crankcase Breather Inlet Element . . Inspect OC
Reach under oil fill cap. Replace if necessary PM150, Series P1500 and 6-cyl. models with PCV. Not on 1963-64 models
Battery .... Test and fill ★
Manifold Heat Control Valve .... MH C
Lubricate if shaft is not free. 6-cyl., left side

TRANSMISSION, Automatic .... "DG" MO, AF
1963-64, AF only
DG, crankcase grade; except below 0°, AF only
Check level, engine idling, NEUTRAL position . . . ★

CAPACITY, quarts	Initial Refill	Total Refill
1955-62 6-cyl.	6	9
8-cyl.	6½	9½
1963-64 6-cyl.	...	4½

DRAIN and REFILL
1955-62 15
Remove 1 coupling plug and transmission plug
1963-64 Regular drain not recommended
Remove transmission oil pan
Oil Filter (under truck) .... Replace
Add extra quart oil. 6-cyl., forward; reach under hood
1955-63 OC 1964 4
Crankcase Breather Outlet Element .... Wash and oil 20 MO OC
More often in extreme dust
Front Wheel Bearings .... Repack WB 20
Initial torque, 45-60 ft. lb.; final adjustment, loosen ⅛ to ¼ turn
1963-64 P-, PB1500, initial torque, 33 ft. lb.; final adjustment, loosen nut to align slot with hole in spindle, maximum, 1/12 turn
Road Damper Spring (5 fittings) Both sides . . . CL ★
On Suburban, optional on other 100 series

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:
1. Disconnect parking brake cables from idler lever
2. Turn star wheel adjuster until a light drag is felt when drum is turned
3. Back off adjuster 7 notches
4. Repeat procedure at each wheel
5. Reconnect parking brake cables and adjust

1964, self-adjusting brakes; adjustment not normally required
Bleeding sequence: LR, LF, RR, RF

KEY TO INTERVALS

★ Every 1,000 miles
2 Every 2,000 miles
4 Every 4,000 miles
5 Every 5,000 miles
10 Every 10,000 miles
15 Every 15,000 miles
20 Every 20,000 miles
OC Every crankcase oil change
C Conditional service
Replace fuel filter element only if carburetor flooding occurs
Fill gearshift control housing when hard to shift
Lubricate manifold heat control valve if shaft is not free

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A
CC Carburetor Cleaner
CG Cup Grease
CL Chassis Lubricant
GL Straight Mineral Gear Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
MH Graphite mixed with alcohol
MO Motor Oil "DG" meeting MIL-L-2104A
MP* Multi-Purpose Gear Lubricant
SG Steering Gear Lubricant
WB Wheel Bearing Grease

* For Powr-Lok differential, use Special Lubricant Part No. 3758791

GMC TRUCKS

1960-62 Series 1000, 1500
1963-64 Series 1000, 1500, 2500
1964 Series I-1000, -1500, -2500

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24 24T	53, 61 70

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi
V-6 engine 125
In-line 6 engine 130

SPARK PLUGS

AC: V-6, 1960-61 C44, 1962 C44S, 1963 C44S (⅜" reach) or C44NS (¾" reach) depending on head design; 1964 C44NS
In-line 6, 46N
Gap: V-6, .033"-.038"; In-line 6, .035"
Torque: 23-27 ft. lb.

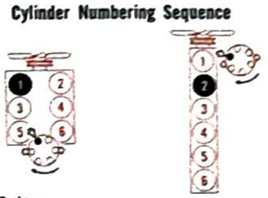
IGNITION POINTS

Delco
Gap: .016" used; .019" new
Dwell angle: V-6, 31°-35°; In-line 6, 31°-34°

CONDENSER

Delco
Capacity: .18-.23 mfd

Cylinder Numbering Sequence

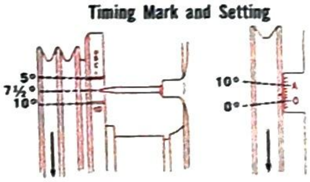


Firing Order:
V-6 1, 6, 5, 4, 3, 2
In-line 6 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Disconnect distributor vacuum line and tape manifold opening
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Set idle speed to lowest rpm at which the engine will run smoothly
5. Observe timing at crankshaft damper or pulley and turn distributor to obtain recommended setting
6. Reconnect vacuum line and reset to proper idle

Timing Mark and Setting



V-6 In-line 6

Timing Setting (Before Top Dead Center):
V-6: 1960-61, 5°; 1962-64, 7½°
In-line 6: 4°

FUEL PUMP

AC: V-6, 1960-61, 1964, model HK; 1962-63, model HE
In-line 6, model AF
Pressure: V-6, 5-6 lb. at 3600 rpm
In-line 6, 3½-4½ lb. at 500-1000 rpm
Volume: Not required

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
HOLLEY	
1-bbl. 1904	1
ROCHESTER	
1-bbl. B	1½-2½
STROMBERG	
2-bbl. WW2	1

ENGINE IDLE SPEED

Manual Trans.: V-6, 400-500 rpm; In-line 6, 500 rpm
Auto. Trans. 450 rpm in NEUTRAL

VALVE CLEARANCES

(engine hot and running)
V-6: Intake .012"; exhaust .018"
In-line 6: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

Without Heater
1000 series 32
1500, 2500 series 34
I-1000, -1500, -2500 11
Cooling system pressure, 1960-62, 7 pounds; 1963-64, 13 pounds

[★] **Generator** (2 oil cups) .... MO
1963-64, no lubrication

[★] **Power Steering Reservoir** .... AF
Fill to level mark on reservoir

[OC] **Oil Fill Caps** .... Wash and oil MO
In-line engine, located forward
1963-64 V-6, sealed cap, right side

Air Cleaner Element .... Service
[2] Oil bath .... Wash and fill MO
Crankcase grade
[2] Wire gauze .... Wash and oil MO

[5] **Governor Air Filter Element** .... Wash
On V-6 only. Replace as required

[10] **PCV System Valve** .... Wash CC
1963-64 V-6, remove valve covers to service, located rear of cylinder heads. In-line engine, located in valve cover, rear

Oil Filter (under truck) .... Replace
Add extra quart oil. In-line engine, right side front
[OC] 1960-63 [4] 1964

[★] **Master Cylinder** (plug) .... HB
Fill to ½ inch below top of opening

[OC] **Crankcase Breather Element** .... Inspect
Replace if clogged
On V-6 models with PCV

[★] **Steering Gear** (plug) .... SG
90MP may be used

Front Suspension and Steering Linkage ..... (16 to 18 fittings) CL
[★] 1960-63 [6] 1964

[2] **Brake Vacuum Cylinder Air Cleaner** ..... Wash

[★] **Transmission Control Bell Crank** CL
1960 and 1964 3-speed transmission only

[★] **Speedometer Adapter** (fitting or grease cup) . CL

TRANSMISSION, Manual

[★] Maintain level to fill plug hole
1963-64 3-spd. HD New Process 745G ..... AF
CAPACITY 3¼ pints
Others .... MP
Above 0°, 90; below 0°, 80
CAPACITY 3-spd., 2 pints; 3-spd. HD, 3 pints; 4-spd., 6 pints; 4-spd. HD New Process 745G, 7 pints
[10] DRAIN and REFILL

[★] **Universal Joint** .... 140 GL

[★] **Universal Joint Spline** CL
Not on single section propeller shaft models except with 4-speed transmission, spline located at rear of front joint

[★] **Universal Joint** .... 140 GL
Not on single section propeller shaft

[★] **Spring Bolts** CL
2500 series only

[★] **Universal Joint** .... 140 GL

[20] **Rear Wheel Bearings** .... Repack
1500 series .... WB
2500 series .... CG
Necessary to remove axle shafts

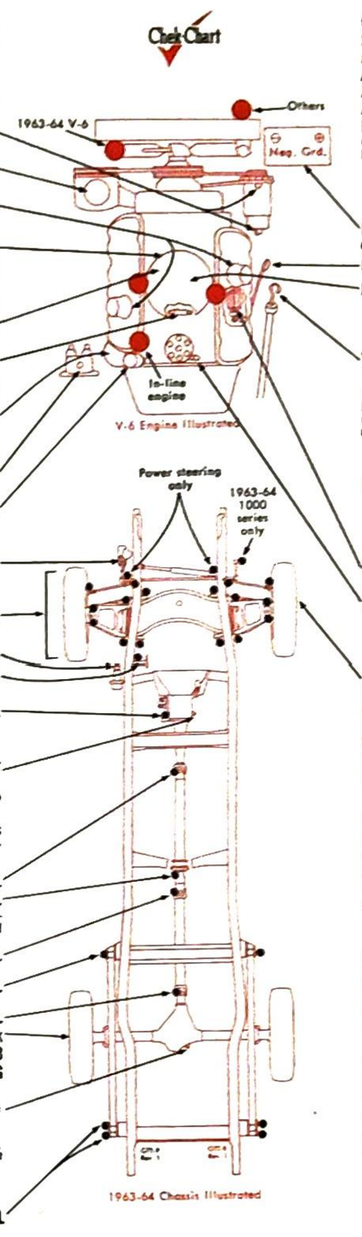
DIFFERENTIAL .... MP*

Above +100°, 140; above 0°, 90; below 0°, 80
[★] Maintain level to fill plug hole
CAPACITY 1000 series, 3 pints; 1500 series, 5½ pints; 2500 series, 6½ pints
[10] DRAIN and REFILL
POWR-LOK IDENTIFICATION:
Metal tag attached to housing near fill plug

[★] **Spring Shackles** CL
2500 series only

GAS TANK .... Gallons

1960-62 17
1963-64 .... 20*
* 2500 series, 121-inch w.b. with cowl, 16¾; 133-inch w.b. with cowl or panel, 19¾



● Lubrication fitting
● Cooling system drain

CRANKCASE .... "DG" MO

Severe start-and-stop cold-weather operation, "DM" may be used
Above +32° 20
Above +10° 20W
Above −10° 10W
Below −10° 5W
CAPACITY 5 quarts except in-line engine, 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill [★]
Caution: Do not ground positive terminal

Crankcase Dipstick .... Check level

Fuel Filter Element .... Replace
1960-63, on frame side rail .... [10]
1964, in carburetor fuel inlet .... [C]

TRANSMISSION, Automatic .... "DG" MO, AF

1963-64, AF only
DG, crankcase grade; except below 0°, AF only
Check level, engine idling, NEUTRAL position ... [★]

CAPACITY, quarts	Initial Refill	Total Refill
1000 series 1960-62	6½	9
1500 series 1960-62	6½	10
All 1963-64	4½	4½

DRAIN and REFILL
1960-62 .... [15]
Remove 1 coupling plug and transmission plug
1963-64 Regular drain not recommended
Remove transmission oil pan

Manifold Heat Control Valve .... MH [C]
Lubricate if shaft is not free

Distributor Shaft (oil cup) .... MO [★]
Cam lubricator wick (1964 only)
Rotate 180° [10] Replace [20]
In-line engine, right side forward

Front Wheel Bearings .... Repack WB [20]
1960-62, initial torque, 45-60 ft. lb.; final adjustment, loosen ⅙ to ¼ turn
1963-64: 1000 series, initial torque, 15 ft. lb.; final adjustment, loosen nut one flat, if necessary back off nut not more than ½ flat to align. 1500, 2500 series, initial torque, 33 ft. lb.; loosen nut to align slot with hole in spindle, maximum, ½ turn

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust brakes as follows:

1. Disconnect parking brake cable from idler lever
2. Using a suitable tool inserted into adjustment opening in backing plate, turn star wheel adjuster until a light drag is felt when drum is revolved
3. Back off adjuster 7 notches
4. Repeat procedure at each wheel
5. Reconnect parking brake cable and adjust

1964 1000, 1500, I-1000, I-1500, self-adjusting brakes; adjustment not normally required
Bleeding sequence: LR, LF, RR, RF

KEY TO INTERVALS

[★] Every 1,000 miles
[2] Every 2,000 miles
[4] Every 4,000 miles
[5] Every 5,000 miles
[6] Every 6,000 miles
[10] Every 10,000 miles
[15] Every 15,000 miles
[20] Every 20,000 miles
[OC] Every crankcase oil change
[C] Conditional service
Replace fuel filter element if carburetor flooding occurs
Lubricate manifold heat control valve if shaft is not free

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF	Automatic Transmission Fluid, Type A	GL	Straight Mineral Gear Lubricant
CC	Carburetor Cleaner	HB	Hydraulic Brake Fluid, Heavy-Duty
CG	Cup Grease	MH	Graphite mixed with alcohol
CL	Chassis Lubricant	MO	Motor Oil "DG" meeting MIL-L-2104A
		MP*	Multi-Purpose Gear Lubricant
		SG	Steering Gear Lubricant
		WB	Wheel Bearing Grease

* For Powr-Lok differential, use Special Lubricant Part No. 3758791

GMC TRUCKS

1960-62 Series 2500, 3000

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24	53
	24T	70

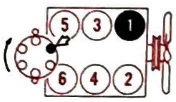
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
V-6 engine 125

SPARK PLUGS
AC: 1960-61, C44; 1962, C44S
Gap: .033"-.038"
Torque: 23-27 ft. lb.

IGNITION POINTS
Delco
Gap: .016"
Dwell angle: 31°-35°

CONDENSER
Delco
Capacity: .18-.23 mfd

Cylinder Numbering Sequence

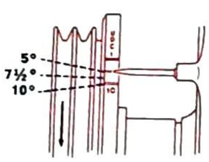


Firing Order: 1, 6, 5, 4, 3, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Disconnect distributor vacuum line and tape manifold opening
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Set idle speed to lowest rpm at which the engine will run smoothly
5. Observe timing at crankshaft pulley and turn distributor to obtain recommended setting
6. Reconnect vacuum line and reset to proper idle

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 1960-61, 5°; 1962, 7½°

FUEL PUMP
AC: 1960-61, model HK; 1962, model HE
Pressure: 5-6 lb. at 3600 rpm
Volume: 1⅔ quarts per minute at 1000 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
HOLLEY 1-bbl. 1904	1
STROMBERG 2-bbl. WW2	1

ENGINE IDLE SPEED
Manual Trans. 400-450 rpm
Auto. Trans. 450 rpm in NEUTRAL

VALVE CLEARANCES
(engine hot and running)
Intake .012"; exhaust .018"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts
All models .... Without Heater 32
Cooling system pressure, 7 pounds

[★] **Generator** (2 oil cups) .... MO

[OC] **Oil Fill Caps** .... Wash and oil MO

Air Cleaner Element .... Service
[2] Oil bath .... Wash and fill MO

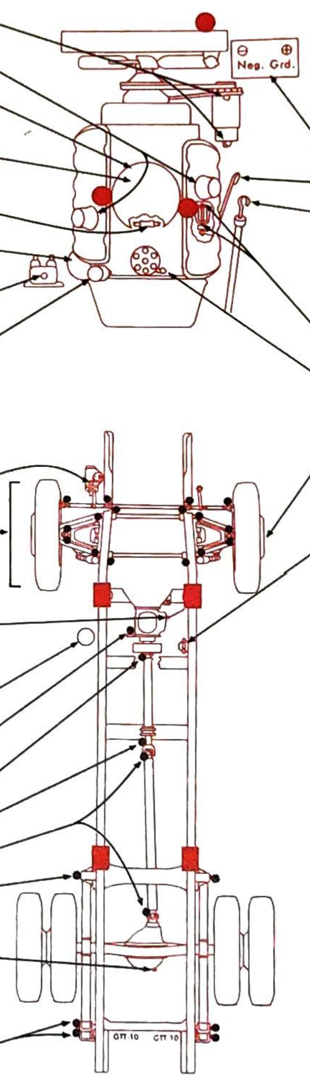
[5] **Governor Air Filter Element** .... 10W MO
Wash and oil

[10] **PCV System Valve** .... Wash CC

[OC] **Oil Filter** (under truck) .... Replace
Add extra quart oil

[★] **Master Cylinder** (plug) .... HB
Fill to ½ inch below top of opening

[OC] **Crankcase Breather Element** .... Inspect
Replace if clogged
On models with PCV only



CRANKCASE .... "DG" MO
Severe start-and-stop cold-weather operation, "DM" may be used
Above +90° 30*
Above +32° 30*, 20
Above +10° 20W
Above −10° 10W
Below −10° 5W
* 2500 series, 20 above +32°
CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill [★]

Crankcase Dipstick .... Check level

TRANSMISSION, Automatic .... "DG" MO, AF
DG, crankcase grade; except below 0°, AF only
Check level, engine idling, NEUTRAL position... [★]
CAPACITY, quarts — Initial Refill — Total Refill
2500 series .... 5 — 10
DRAIN and REFILL .... [15]
Remove 1 coupling plug and transmission plug

Manifold Heat Control Valve .... MH [C]
Lubricate if shaft is not free

Distributor Shaft (oil cup) .... MO [★]

[★] **Steering Gear** (plug) .... SG

[★] **Front Suspension and Steering Linkage** .... (16 fittings) CL

Front Wheel Bearings .... Repack WB [20]
Initial torque, 45-60 ft. lb.; final adjustment, loosen ⅙ to ¼ turn

Fuel Filter Element .... Replace [10]

TRANSMISSION, Manual .... MP
Above 0°, 90; below 0°, 80
[★] Maintain level to fill plug hole
CAPACITY 6 pints
[10] DRAIN and REFILL

[★] **Brake Vacuum Cyl. Air Cleaner Element**. 10W MO
In cab, behind seat, left rear corner

[★] **Speedometer Adapter** CL

[★] **Universal Joint** .... 140 GL

[★] **Universal Joint Spline** CL

[★] **Universal Joints** .... 140 GL

[★] **Spring Bolts** CL

DIFFERENTIAL .... MP
Above +100°, 140; above 0°, 90; below 0°, 80
[★] Maintain level to fill plug hole
CAPACITY 2500 series, 6½ pints; 3000 series, 14 pints
[10] DRAIN and REFILL

[★] **Spring Shackles** CL

GAS TANK .... Gallons
All models 17

Position for lift adapter
Lubrication fitting
Cooling system drain

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated

2500 Front and Rear; 3000 Front (Duo-Servo)

1. Using a suitable tool inserted into adjustment opening in backing plate, turn star wheel adjuster until a light drag is felt when drum is revolved
2. Back off adjuster 7 notches
3. Repeat procedure at each wheel

3000 Rear (Twin Action)

1. Two adjustment openings are provided in each backing plate. Using a suitable tool turn rearmost adjuster until light drag is obtained
2. Back off this adjustment 3 notches
3. Repeat steps 1 and 2 for the forward adjuster
4. Repeat procedure at the opposite rear wheel

Bleeding sequence: Power brake forward valve, rearward valve, LR, LF, RR, RF then repeat power brake valves again

KEY TO INTERVALS

[★] Every 1,000 miles
[2] Every 2,000 miles
[5] Every 5,000 miles
[10] Every 10,000 miles
[15] Every 15,000 miles
[20] Every 20,000 miles
[OC] Every crankcase oil change
[C] Conditional service
Lubricate manifold heat control valve if shaft is not free

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A
CC Carburetor Cleaner
CL Chassis Lubricant
GL Straight Mineral Gear Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
MH Graphite mixed with alcohol
MO Motor Oil
"DG" meeting MIL-L-2104A
MP Multi-Purpose Gear Lubricant
SG Steering Gear Lubricant
WB Wheel Bearing Grease

INTERNATIONAL TRUCKS

1957-61 A and B Series 4x2 100, 110, 120, 130
1957-64 Metro AM-120, AM-130

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24H	50

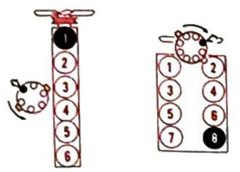
COMPRESSION PRESSURE
(at cranking speed with throttle open)
Lowest cylinder pressure must be within 90% of highest cylinder

SPARK PLUGS
Metro models: AC, C46; Autolite, A9; Champion, J-11; Others: AC, C45; Autolite, A7; Champion, J-8
Gap: 6-cyl., .028"-.033"; 8-cyl., .025"-.030"
Torque: 28-30 ft. lb.

IGNITION POINTS
Delco
Gap: 6-cyl., used points .016"; new points .019"
8-cyl., used points .014"; new points .016"
Dwell angle: 6-cyl., 28°-35°; 8-cyl., 26°-29°

CONDENSER
Delco
Capacity: .18-.23 mfd

Cylinder Numbering Sequence

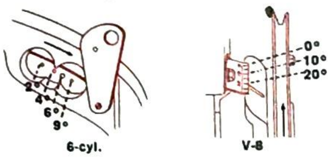


Firing Order:
6-cyl. 1, 5, 3, 6, 2, 4
8-cyl. 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. 6-cylinder: Connect timing light to No. 1 spark plug or distributor cap tower
   8-cylinder: Connect timing light to No. 8 spark plug or distributor cap tower
4. With transmission in NEUTRAL:
   6-cyl.: Set to idle speed
   8-cyl.: Set to 350 rpm
5. Observe timing mark:
   6-cylinder: Thru opening in flywheel housing
   8-cylinder: At crankshaft damper
6. Turn distributor to obtain alignment of timing mark and pointer
7. Reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
6-cyl.: 220, 240, 241 engines, 4°; 264, 265 engines, 2°
8-cyl. 266 engine, 4°

FUEL PUMP
AC or Carter
Pressure: 6-cyl., 3-4½ lb.; 8-cyl., 4-5½ lb.; at 500-2000 rpm
Volume: 6-cyl., 33½ ounces per minute at speeds up to 3500 rpm; 8-cyl., 57½ ounces per minute at speeds up to 4000 rpm

CARBURETOR ADJUSTMENT

HOLLEY	Idle Mixture (initial turns)
6-cyl.	
1-bbl. 1904*	¾-1¼
1-bbl. 1904**	1¼-1¾
1-bbl. 2110**	1¼-1¾
8-cyl.	
2-bbl. 2300	1

* 220 engine
** 240, 241, 264, 265 engines

ENGINE IDLE SPEED
Manual Trans. 350-400* rpm
Auto. Trans. 350-400* rpm in DRIVE
* 8-cyl., 450-500 rpm

VALVE CLEARANCES
(engine hot and running)
6-cyl.: Intake .024"-.026"; exhaust .024"-.026"
8-cyl.: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts Without Heater
100, 110, 120, 130 6-cyl. 15
8-cyl. 21
Metro 17
Cooling system pressure, 7 pounds

[★] **Power Steering Reservoir** ..... 10W "MS" MO
Fill to "F" mark on dipstick or 1½ inches from top of filler neck

[20] **Power Steering Oil Filter Element** .... Clean
Located in reservoir. Early models, replace element when oil is discolored

[★] **Steering Gear** (plug) .... 90 MP
Metro, reach under fender

[★] **Oil Fill Cap** .... Wash and oil 30 MO
8-cyl., right side; Metro, at rear

[3] **Oil Filter** .... Replace, add extra quart oil
8-cyl., late 6-cyl., reach under truck

Crankcase Dipstick .... Check level
8-cyl., right side, front; Metro, rear

[★] **Distributor Shaft** (oil cup) 8-cyl. ...... 20W MO
[10] Shaft (plug) 6-cyl. .... 20W MO
Fill reservoir to plug hole
[3] Wick under rotor, 6-cyl. .... 10W MO

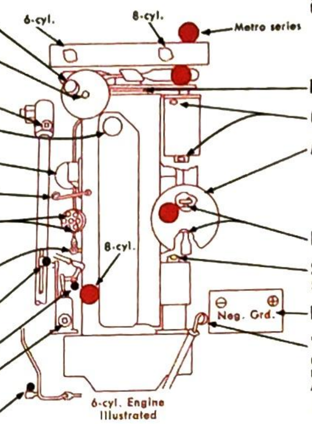
[TY] **PCV System Valve** .... Clean
Disassemble valve body and line, 8-cyl., in valve cover

[★] **Gearshift Control Levers** CL
Not on 4-speed transmission. Metro, under fender

[★] **Gearshift Bell Crank** Some Metro CL

[★] **Brake Master Cylinder** (plug) .... HB
Fill to ½ inch below top of fill hole
Metro, reach under floor or fender

[★] **Clutch Equalizer Shaft** 1957, some 1958 CL
Not on Metro or automatic transmission models



CRANKCASE .... "MS or S1" MO

Above +32°	30	...
Above +10°	20W	10W-30
Above −10°	10W	10W-30
Below −10°	...	5W-20

CAPACITY 5 quarts except early 1957, 6 quarts; 1958-64 Metro, 7 quarts
DRAIN and REFILL
See Service Instructions, page 4

Fan Belt Idler Pivot Shaft (oiler) 8-cyl. ... 30 MO [★]

Generator (2 oil cups) .... MO [★]

Air Cleaner Element .... Service
Dry type .... Clean [5]
Dry type .... Replace [15]
Oil bath .... Wash and fill MO [5]

Manifold Heat Control Valve Shaft 6-cyl. .... PO [★]

Starter (oil cup) .... 30 MO [★]
Some, no oil cup. Lubricate at overhaul

Battery .... Test and fill [★]

TRANSMISSION, Automatic .. AF
Check level, engine idling, PARK position ...... [★]

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	10

DRAIN and REFILL .... [15]
Remove 2 converter plugs and transmission fill pipe

[★] **Front Suspension and Steering Linkage** ...... (8 or 12 fittings) CL

[15] **Speedometer Cable** .... Coat GG

[★] **Hydrovac Air Cleaner Element** .... 30 MO
Wash and oil

[15] **Hydrovac Cylinder** .... VO
Fill to plug level

[★] **Clutch Remote Control Shaft** CL
Some Metros with manual transmission only

[★] **Clutch Equalizer Shaft Yoke** .... Coat CL
Not on Metro or automatic transmission models

[15] **Clutch Release Bearing** .... Sparingly WB
Remove cover below flywheel. Rotate bearing to four 90° positions when lubricating sleeve. Coat release fork tips
Stop-and-go driving, 10,000 miles

TRANSMISSION, Manual ..... GL
Above 0°, 90; below 0°, 80. For temperatures consistently above +90°, 140; below 0°, 75
[★] Maintain level to fill plug hole

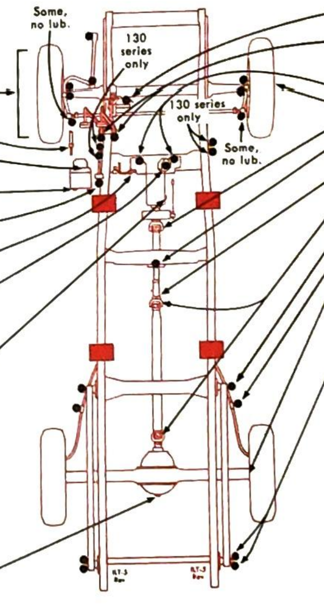
CAPACITY, pints	3-Speed Synchro-shift	3-Speed H.D.	4-Speed Synchro-shift
100	2½*	...	7
110, 120	2½*	6	7◆
Metro	2½	6	7
130	...	6	7◆

* With overdrive, 3½
◆Nonsynchronized 4-speed, 5

[TY] DRAIN and REFILL
Overdrive, drain and fill thru separate plug holes
Fill overdrive first

DIFFERENTIAL .... EP, MP*
Above +40°, 140; below +40°, 90
[★] Maintain level to fill plug hole
CAPACITY 100, 3 pints; 110, 120, Metro AM-120, 4 pints; 130, Metro AM-130, 5½ pints
[TY] DRAIN and REFILL
POWR-LOK IDENTIFICATION:
Axle Nos. 14003, -006, -011 on plate inside cab

GAS TANK .... Gallons
Series 100, 110, 120, 130 17
Panel, Travelette, Travelall 15
Metro AM-120, -130 15



Gearshift Control Cross Shaft .... CL [★]
Some Metro with 3-speed transmission

Clutch and Brake Pedals .... CL [★]
Metro, manual transmission only. Automatic transmission, 1 fitting

Clutch Release Shaft .... CL [★]

Front Wheel Bearings .... Repack WB [10]

Universal Joint (plug or fitting) .... 140 GL [3]

Propeller Shaft Bearing .... WB [★]
Some long-wheelbase models

Universal Joint Spline (plug or fitting) .... CL [★]
At front joint on single shaft models

Universal Joints (2 plugs or fittings) .... 140 GL [3]
Center joint on models with 2 propeller shafts

Spring Bolts 130 series .... CL [★]

Hand Brake Cables 100 series .... CL [★]

Rear Wheel Bearings
With plug (100, 110 series) ...... 1 oz. WB [10]
Use low pressure
Without plug .... Repack WB [10]
Necessary to remove axle shafts

Spring Shackles 130 series .... CL [★]

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2"-3" the need for service is indicated
Adjust the brakes as follows:
1. Using suitable tool inserted into adjusting opening in backing plate, expand shoes until drum can just be turned by hand
2. Back off adjustment screw 12-14 notches
3. Repeat procedure at each wheel

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

[★] Every 1,000 to 2,000 miles
[3] Every 3,000 to 5,000 miles
[5] Every 5,000 miles
[10] Every 10,000 to 20,000 miles
[15] Every 15,000 to 20,000 miles
Automatic Transmission: Every 15,000 miles
[20] Every 20,000 miles
[TY] Twice yearly or every 10,000 miles

Position for lift adapter
Lubrication fitting
Cooling system drain

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A
- **CL** Chassis Lubricant
- **EP** Extreme Pressure Gear Lubricant — Sulfur chlorine lead type
- **GG** Graphite Grease
- **GL** Straight Mineral Gear Lubricant
- **HB** Hydraulic Brake Fluid, Heavy-Duty SAE 70R3
- **MO** Motor Oil — "MS" meeting MIL-L-2104A, "S1" Supplement 1
- **MP*** Multi-Purpose Gear Lubricant — Suitable for hypoid axles
- **PO** Penetrating Oil
- **VO** Vacuum Cylinder Oil
- **WB** Wheel Bearing Grease

* This lubricant also recommended for Powr-Lok differential

INTERNATIONAL TRUCKS

1961-64 C Series 100, 1000

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24H	50

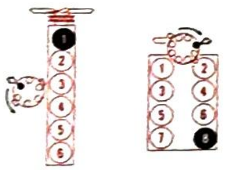
COMPRESSION PRESSURE
(at cranking speed with throttle open)
Lowest cylinder pressure must be within 90% of highest cylinder

SPARK PLUGS
AC C45; Autolite A7; Champion J-8
Gap: 6-cyl., .028"-.033"; 8-cyl., .025"-.030"
Torque: 28-30 ft. lb.

IGNITION POINTS
Delco
Gap: 6-cyl. used points .016"; new points .019"
8-cyl. used points .014"; new points .016"
Dwell angle: 6-cyl., 28°-35°; 8-cyl., 26°-29°

CONDENSER
Delco
Capacity: .18-.23 mfd

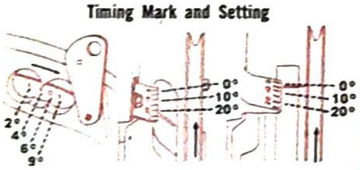
Cylinder Numbering Sequence



Firing Order:
6-cyl. 1, 5, 3, 6, 2, 4
8-cyl. 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. 6-cyl: Connect timing light to No. 1 spark plug or distributor cap tower
   8-cyl.: Connect timing light to No. 8 spark plug or distributor cap tower
4. With transmission in NEUTRAL:
   6-cyl.: Set to idle speed
   8-cyl.: Set to 350 rpm
5. Observe timing mark:
   6-cyl.: Thru opening in flywheel housing
   8-cyl.: At crankshaft damper
6. Turn distributor to obtain alignment of timing mark and pointer
7. Reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
6-cyl.: 220, 240, 241 engines, 4°
8-cyl.: 266 engine, 4°; 304 engine, 0°

FUEL PUMP
AC or Carter
Pressure: 6-cyl., 3-4½ lb.; 8-cyl., 4-5½ lb.; at 500-2000 rpm
Volume: 6-cyl., 33½ ounces per minute at speeds up to 3500 rpm; 8-cyl., 57½ ounces per minute at speeds up to 4000 rpm

CARBURETOR ADJUSTMENT

HOLLEY	Idle Mixture (initial turns)
6-cyl.	
1-bbl. 1904*	¾-1¼
1-bbl. 1904**	1¼-1¾
8-cyl.	
2-bbl. 2300	1

* 220 engine
** 240, 241 engines

ENGINE IDLE SPEED
Manual Trans. 350-400* rpm
Auto. Trans. 350-400* rpm in DRIVE
* 8-cyl., 450-500 rpm

VALVE CLEARANCES
(engine hot and running)
6-cyl.: Intake .024"-.026"; exhaust .024"-.026"
8-cyl.: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	Without Heater
6-cyl.	16
8-cyl.: V-266 engine	19
V-304 engine	20

Cooling system pressure, 7 pounds

[1] **Battery** .... Test and fill

[1] **Steering Gear** (plug) .... 90 MP

[C] **Fuel Filter Element** .... Replace if clogged
Inspect bowl and element, clean as required
8-cyl., right side, forward

[3] **Oil Filter** .... Replace, add extra quart oil
Reach under truck

[3] **Tachometer Drive Gears V-304 eng.** CL
In distributor housing. Lubricate until lubricant appears at vent hole in distributor housing

[10] **Distributor Shaft 6-cyl.** (plug) .... 20W MO
Fill reservoir to plug hole
[1] 8-cyl. (oil cup) right side, front .... 20W MO
[3] Wick under rotor, 6-cyl. .... 10W MO

[TY] **PCV System Valve** .... Clean
Disassemble valve body and line. 8-cyl., rear at center

[1] **Gearshift Control Levers** CL
3-speed and automatic transmissions
Late models, no lubrication

[1] **Brake and Clutch Reservoirs** (plug or cover) .. HB
Fill to ¾ inch below top of fill hole
Without power brakes, single dual purpose reservoir

[25] **Power Brake Cylinder Air Cleaner Felt** .... Wash

[1] **Gearshift Relay Shafts** CL
3-speed transmission only. Not on 1000 series

[1] **Front Suspension and Steering Linkage** ..... (10 or 12 fittings) CL

[1] **Clutch Release Shaft** CL

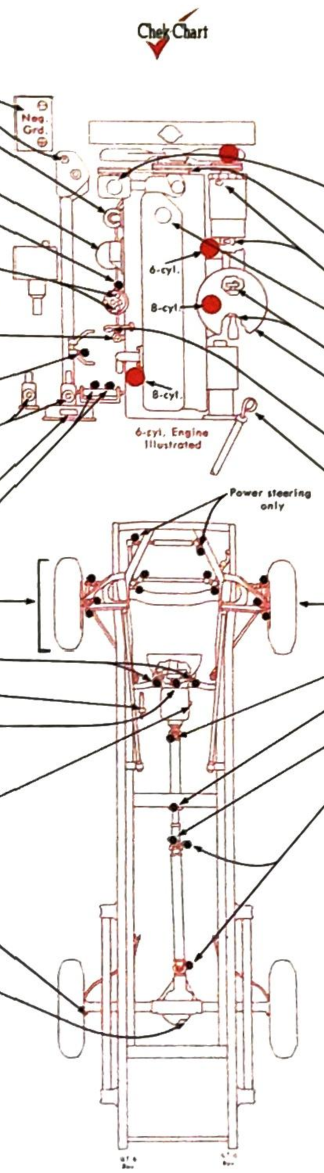
[15] **Speedometer Cable** .... Coat GG

[15] **Clutch Release Sleeve** .... Sparingly WB
Remove cover below flywheel
Coat release fork tips and contact pads
Stop-and-go driving, 10,000 miles

TRANSMISSION, Manual ..... GL
Above 0°, 90; below 0°, 80. For temperatures consistently above +90°, 140; below 0°, 75
[1] Maintain level to fill plug hole
CAPACITY 3-speed synchro-shift, 2½ pints; with overdrive, 3½ pints; 4-speed, 7 pints
[TY] **DRAIN and REFILL**
Overdrive, drain and fill thru separate plug holes
Fill overdrive first

[10] **Rear Wheel Bearings** (plug) .... 1 oz. WB
Use low pressure

DIFFERENTIAL .... EP, MP*
Above +40°, 140; below +40°, 90
[1] Maintain level to fill plug hole
CAPACITY 3 pints
[TY] **DRAIN and REFILL**
POWR-LOK IDENTIFICATION:
Metal tag under differential cover bolt below fill plug



CRANKCASE .... "MS" or S1" MO

Above +32°	30	...
Above +10°	20W	10W-30
Above −10°	10W	10W-30
Below −10°	...	5W-20

CAPACITY 6-cyl., 6 quarts; 8-cyl., 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Power Steering Reservoir ..... 10W "MS" MO [1]
Fill to "F" mark on dipstick or "OIL LEVEL" mark on filler neck

Fan Belt Idler Pivot Shaft (oiler) 8-cyl. .. 30 MO [1]
Not on late models

Generator (2 oil cups) .... MO [1]

Oil Fill Cap .... Wash and oil 30 MO [1]
8-cyl., right side

Manifold Heat Control Valve Shaft 6-cyl. .... PO [1]

Air Cleaner Element .... Service
Oil bath .... Wash and fill MO [5]
Above +32°, 40 or 50; below +32°, 20W

Crankcase Dipstick .... Check level
8-cyl., right side, front

TRANSMISSION, Automatic .. AF
Check level, engine idling, PARK position .... [1]

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	10

DRAIN and REFILL .... [15]
Remove 2 converter plugs and transmission fill pipe

Front Wheel Bearings .... Repack WB [10]

Universal Joint (plug or fitting) .... 140 GL [3]

Propeller Shaft Bearing .... WB [1]
Models with 2 propeller shafts

Universal Joint Spline (plug or fitting) ...... CL [1]
At front joint on single shaft models

Universal Joints (2 plugs or fittings) .... 140 GL [3]
Center joint on models with 2 propeller shafts

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2"-3" the need for service is indicated
Adjust the brakes as follows:
1. Using suitable tool inserted into adjusting opening in backing plate, expand shoes until drum can just be turned by hand
2. Back off adjustment screw 12-14 notches
3. Repeat procedure at each wheel

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

- [1] Every 1,000 to 2,000 miles
- [3] Every 3,000 to 5,000 miles
  Oil Filter: Every 3,000 to 4,000 miles
- [5] Every 5,000 miles
- [10] Every 10,000 to 20,000 miles
- [15] Every 15,000 to 20,000 miles
  Automatic Transmission: Every 15,000 miles
- [25] Every 25,000 miles
- [TY] Twice yearly or every 10,000 miles
- [C] Conditional service

GAS TANK .... Gallons
Standard on all models 17
Auxiliary optional on Panel, Travelall 19

● Lubrication fitting
● Cooling system drain

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

- **AF** Automatic Transmission Fluid, Type A
- **CL** Chassis Lubricant
- **EP** Extreme Pressure Gear Lubricant
  Sulfur chlorine lead type
- **GG** Graphite Grease
- **GL** Straight Mineral Gear Lubricant
- **HB** Hydraulic Brake Fluid, Heavy-Duty SAE 70R3
- **MO** Motor Oil
  "MS" meeting MIL-L-2104A
  "S1" Supplement 1
- **MP*** Multi-Purpose Gear Lubricant
  Suitable for hypoid axles
- **PO** Penetrating Oil
- **WB** Wheel Bearing Grease

* This lubricant also recommended for Powr-Lok differential

INTERNATIONAL TRUCKS

1961-64 C Series 4x2 110, 120, 130, 900, 1100, 1200, 1300

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY	AABM Group No.	Amp. Hrs.
All	24H	50

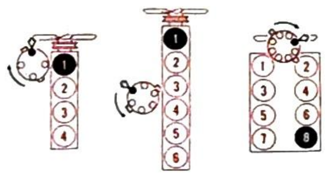
COMPRESSION PRESSURE
(at cranking speed with throttle open)
Lowest cylinder pressure must be within 90% of highest cylinder

SPARK PLUGS
4-cyl.: AC C45; Autolite AT4; Champion J-6
Others: AC C45; Autolite A7; Champion J-8
Gap: 6-cyl. .028"-.033"; 4-cyl., 8-cyl. .025"-.030"
Torque: 28-30 ft. lb.

IGNITION POINTS
Delco
Gap: 6-cyl. used points .016"; new points .019"
4-cyl., 8-cyl.: Used points .014"; new points .016"
Dwell angle: 4-cyl. 74°-76°; 6-cyl. 28°-35°; 8-cyl. 26°-29°

CONDENSER
Delco
Capacity: .18-.23 mfd

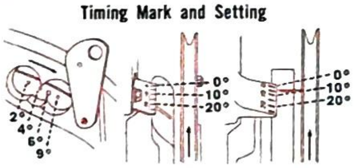
Cylinder Numbering Sequence



Firing Order:
4-cyl. 1, 3, 4, 2
6-cyl. 1, 5, 3, 6, 2, 4
8-cyl. 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. 4-cyl., 6-cyl.: Connect timing light to No. 1 spark plug or distributor cap tower
   8-cyl.: Connect timing light to No. 8 spark plug or distributor cap tower
4. 4-cyl.: Disconnect distributor vacuum line and tape manifold opening
5. With transmission in NEUTRAL:
   4-cyl., 6-cyl.: Set to idle speed
   8-cyl.: Set to 350 rpm
6. Observe timing mark:
   6-cyl.: Thru opening in flywheel housing
   4-cyl., 8-cyl.: At crankshaft damper
7. Turn distributor to obtain alignment of timing mark and pointer
8. 4-cyl.: Reconnect vacuum line
9. Reset to proper idle speed

Timing Mark and Setting



6-cyl. 4-cyl., V-8 early V-8 late

Timing Setting (Before Top Dead Center):
4-cyl. 5°
6-cyl.: 220, 240, 241 engines, 4°
8-cyl.: 266 engine, 4°; 304 engine, 0° (TDC)

FUEL PUMP
AC or Carter
Pressure: 6-cyl., 3-4½ lb.; 4-cyl., 8-cyl. 4-5½ lb.; at 500-2000 rpm
Volume: 6-cyl., 33½ ounces per minute at speeds up to 3500 rpm; 4-cyl., 8-cyl. 57½ ounces per minute at speeds up to 4000 rpm

CARBURETOR ADJUSTMENT

HOLLEY	Idle Mixture (initial turns)
4-cyl.	
1-bbl. 1904	¾-1¼
6-cyl.	
1-bbl. 1904*	¾-1¼
1-bbl. 1904**	1¼-1¾
8-cyl.	
2-bbl. 2300	1

* 220 engine
** 240, 241 engines

ENGINE IDLE SPEED
Manual Trans.:
4-cyl. 450-500 rpm; 6-cyl. 350-400 rpm; 8-cyl. 450-500 rpm
Auto. Trans.:
6-cyl. 350-400 rpm; 8-cyl. 450-500 rpm; in DRIVE

VALVE CLEARANCES
(engine hot and running)
6-cyl.: Intake .024"-.026"; exhaust .024"-.026"
4-cyl., 8-cyl.: Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek Chart

COOLING SYSTEM .... Quarts Without Heater
4-cyl. 12
6-cyl. 16
8-cyl.: V-266 engine 19
V-304 engine 20
Cooling system pressure, 7 pounds

★ **Distributor Shaft** 4-cyl., 8-cyl. (oil cup) . 20W **MO**
[10] 6-cyl. (plug) left side, center ...... 20W **MO**
Fill reservoir to plug hole
[3] Wick under rotor, 6-cyl. .... 10W **MO**

★ **Battery** .... Test and fill

★ **Steering Gear** (plug) .... 90 **MP**
Fill thru upper plug to level of lower plug hole

★ **Power Steering Reservoir** ..... 10W "MS" **MO**
Fill to "F" mark on dipstick or "OIL LEVEL" mark on filler neck

[15] **Hydrovac Cylinder** .... **VO**
Fill to plug level. Series 120, 130, 1200, 1300

★ **Hydrovac Air Cleaner Element** .... 30 **MO**
Wash and oil. Series 120, 130, 1200, 1300

[3] **Oil Filter** .... Replace, add extra quart oil
Reach under truck

★ **Gearshift Control Levers** .... **CL**
3-speed remote shift and automatic transmissions
Late models, no lubrication

★ **Brake and Clutch Reservoirs** (plug or cover) . . **HB**
Fill to ¾ inch below top of fill hole
Single dual purpose reservoir on 110, 900, 1100 series without power brakes and all other series

[25] **Power Brake Cylinder Air Cleaner Felt** . . . Wash
110, 1100 series only

★ **Gearshift Relay Shafts** (1 or 2 fittings) ...... **CL**
3-speed remote transmission only. Not on late models

★ **Front Suspension and Steering Linkage** ...... (8 or 10 fittings) **CL**

★ **Clutch Release Shaft** .... **CL**

[15] **Clutch Release Sleeve** .... Sparingly **WB**
Remove cover below flywheel
Coat release fork tips and contact pads
Stop-and-go driving, 10,000 miles

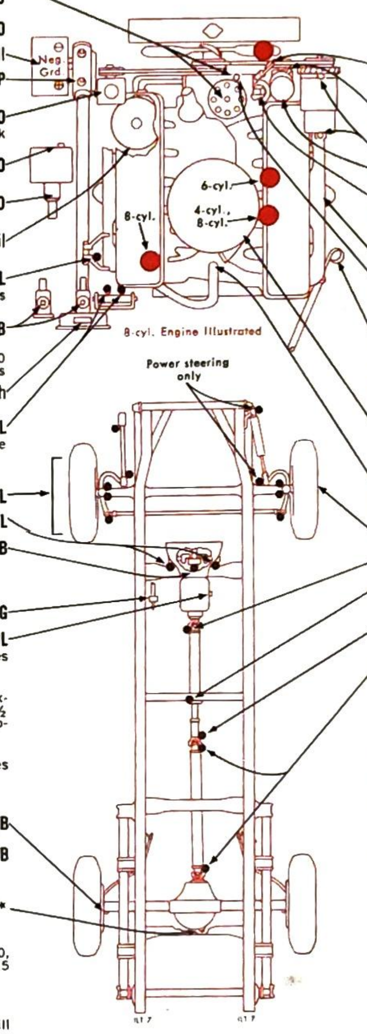
[15] **Speedometer Cable** .... Coat **GG**

TRANSMISSION, Manual ..... **GL**
Above 0°, 90; below 0°, 80. For temperatures consistently above +90°, 140; below 0°, 75
★ Maintain level to fill plug hole
CAPACITY 3-speed synchro-shift, **2½ pints**, except 900 series, **2¾ pints**; with overdrive, **3½ pints**; 3-speed H.D., **6 pints**; 4-speed synchro-shift, **7 pints**
[TY] **DRAIN and REFILL**
Overdrive, drain and fill thru separate plug holes
Fill overdrive first

Rear Wheel Bearings
[10] With plug (110, 900, 1100 series) . . 1 oz. **WB**
Use low pressure
[10] Without plug (other series) ..... Repack **WB**
Necessary to remove axle shafts

DIFFERENTIAL .... **EP, MP***
Above +40°, 140; below +40°, 90
★ Maintain level to fill plug hole
CAPACITY 900 series, **3 pints**; 110, 120, 1100, 1200 series, **4 pints** except 120, 1200 with RA-15 axle, **5½ pints**; 130, 1300 series, **5½ pints**
[TY] **DRAIN and REFILL**
POWR-LOK IDENTIFICATION:
Metal tag under differential cover bolt below fill plug

GAS TANK .... Gallons
900 series 15
Others:
Standard on all models 19
Optional on all models 15
Auxiliary optional on Panel, Travelall . . . 19



● Lubrication fitting
● Cooling system drain

CRANKCASE .... "MS or S1" **MO**

Above +32°	30	. . .
Above +10°	20W	10W-30
Above −10°	10W	10W-30
Below −10°		5W-20

CAPACITY 4-cyl., **4 quarts**; 6-cyl., **6 quarts**; 8-cyl., **5 quarts**
DRAIN and REFILL
See Service Instructions, page 4

Crankcase Dipstick .... Check level
6-cyl., left side, rear of center

Fan Belt Idler Pivot Shaft (oiler) 8-cyl. . . 30 **MO** ★
Not on late models

Generator (2 oil cups) .... **MO** ★

Oil Fill Cap .... Wash and oil 30 **MO** ★

Fuel Filter Element .... Replace if clogged [C]
Inspect bowl and element, clean as required
6-cyl., left side, forward

Manifold Heat Control Valve Shaft 6-cyl. . . . **PO** ★

Tachometer Drive Gears V-304 engine ...... **CL** [3]
Lubricate until lubricant appears at vent hole in distributor housing

TRANSMISSION, Automatic . . **AF** ★
Check level, engine idling. PARK position
CAPACITY, quarts Initial Refill 5, Total Refill 10
All models
DRAIN and REFILL .... [15]
Remove 2 converter plugs and transmission fill pipe

Air Cleaner Element .... Service
Oil bath .... Wash and fill **MO** [5]
Above +32°, 40 or 50; below +32°, 20W

PCV System Valve .... Clean [TY]
Disassemble valve body and line. 4-cyl., 6-cyl., left side, center

Front Wheel Bearings .... Repack **WB** [10]

Universal Joint (plug or fitting) .... 140 **GL** [3]

Propeller Shaft Bearing .... **WB** ★
Models with 2 propeller shafts

Universal Joint Spline (plug or fitting) .... **CL** ★
At front joint on single shaft models

Universal Joints (2 plugs or fittings) . . . . 140 **GL** [3]
Center joint on models with 2 propeller shafts

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2"-3" the need for service is indicated

Adjust the brakes as follows:
1. Using suitable tool inserted into adjusting opening in backing plate, expand shoes until drum can just be turned by hand
2. Back off adjustment screw 12-14 notches
3. Repeat procedure at each wheel

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ Every 1,000 to 2,000 miles
[3] Every 3,000 to 5,000 miles
Oil Filter: Every 3,000 to 4,000 miles
[5] Every 5,000 miles
[10] Every 10,000 to 20,000 miles
[15] Every 15,000 to 20,000 miles
Automatic Transmission: Every 15,000 miles
[25] Every 25,000 miles
[TY] Twice yearly or every 10,000 miles
[C] Conditional service

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A
CL Chassis Lubricant
EP Extreme Pressure Gear Lubricant
Sulfur chlorine lead type
GG Graphite Grease
GL Straight Mineral Gear Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty SAE 70R3
MO Motor Oil
"MS" meeting MIL-L-2104A
"S1" Supplement 1
MP* Multi-Purpose Gear Lubricant
Suitable for hypoid axles
PO Penetrating Oil
VO Vacuum Cylinder Oil
WB Wheel Bearing Grease

★ This lubricant also recommended for Powr-Lok differential

INTERNATIONAL TRUCKS

1961-64 Scout 80

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
All	24H	50

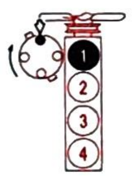
COMPRESSION PRESSURE
(at cranking speed with throttle open)
Lowest cylinder pressure must be within 90% of highest cylinder

SPARK PLUGS
AC C45; Autolite AT4; Champion J-6
Gap: .025"-.030"
Torque: 28-30 ft. lb.

IGNITION POINTS
Delco
Gap: Used points .014"; new points .016"
Dwell angle: 74°-76°

CONDENSER
Delco
Capacity: .18-.23 mfd

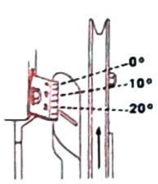
Cylinder Numbering Sequence



Firing Order: 1, 3, 4, 2

TIMING PROCEDURE
1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed with transmission in NEUTRAL
6. Observe timing mark at crankshaft damper
7. Turn distributor to obtain alignment of timing mark and pointer
8. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 5°

FUEL PUMP
AC or Carter
Pressure: 4-5½ lb. at 1000 rpm
Volume: 52 ounces per minute at speeds up to 4000 rpm

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)
HOLLEY 1-bbl. 1904	¾-1¼

ENGINE IDLE SPEED
450-500 rpm

VALVE CLEARANCES
Hydraulic lifters, nonadjustable

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek Chart

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
All models	13½	12

CRANKCASE ...."MS or S1" **MO**

Above +32°	30	...
Above +10°	20W	10W-30
Above −10°	10W	10W-30
Below −10°	...	5W-20

CAPACITY 4 quarts
DRAIN and REFILL
See Service Instructions, page 4

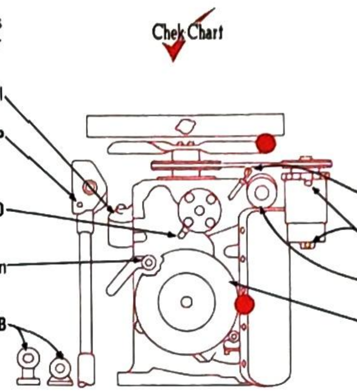
3 **Oil Filter**.........Replace, add extra quart oil

★ **Steering Gear** (plug)................90 **MP**
Remove vent assembly to fill
Keep filled to bottom of threaded hole

★ **Distributor Shaft** (oil cup)..........20W **MO**
Lubricate until cup remains full

TY **PCV System Valve**...................Clean
Disassemble valve body and line

★ **Brake and Clutch Master Cylinders** (caps)...**HB**
Fill to ¾ inch from top of reservoir



Crankcase Dipstick..............Check level

Generator (2 oil cups)..............10W **MO** ★

Oil Fill Cap............Wash and oil 30 **MO** ★

Air Cleaner Element................Service
Oil bath...............Wash and fill **MO** 5
Crankcase grade

Winch Drum and Shaft Bearings...........**CL** ★

Battery.......................Test and fill ★

FRONT DIFFERENTIAL 80 **EP, MP***
Maintain level to fill plug hole.................. ★
CAPACITY 2¼ pints
DRAIN and REFILL.................................. TY

Front Axle Drive Joint (plug)...............**CL** ★
Remove plug to service. Fill to plug level
Use low pressure

Front Wheel Bearings............Repack **WB** 10

Speedometer Cable ....Coat **GG** 15

Universal Joints (2 plugs or fittings)....140 **GL** 3
Use low pressure

Universal Joint Spline (plug or fitting)......**CL** ★
Use low pressure

Front Axle & Transfer Case Controls.......**CL** ★

Universal Joint Spline (plug or fitting)......**CL** ★
Use low pressure

Universal Joints (2 plugs or fittings)....140 **GL** 3
Use low pressure

Rear Wheel Bearings (plug).........1 oz. **WB** 10
Some 4x4 models only
Use low pressure

★ **Winch Gear Case**...................**EP, MP**
Above +40°, 140; below +40°, 90
Keep filled to plug level

★ **Front Suspension and Steering Linkage**..........(8 fittings) **CL**

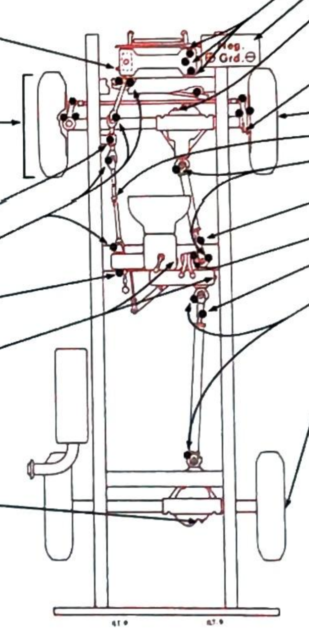
★ **Winch Propeller Shaft Center Bearing**.....**CL**

3 **Universal Joints** ....**CL**
Use low pressure

★ **Power Take-Off Shift Control**............**CL**

TRANSMISSION and TRANSFER CASE..........**GL**
Above 0°, 90; below 0°, 80. For temperatures consistently above +90°, 140; below 0°, 75
★ Maintain level to fill plug hole
CAPACITY Transmission, 2¾ pints; Transfer Case, 3½ pints
TY **DRAIN and REFILL**
Transmission and Transfer Case, drain and refill thru separate plug holes

REAR DIFFERENTIAL....**EP, MP***
Above +40°, 140; below +40°, 90
★ Maintain level to fill plug hole
CAPACITY RA-9, -23, 3 pints; others, 2¼ pints
TY **DRAIN and REFILL**
POWR-LOK IDENTIFICATION (Front and Rear):
Metal tag under differential cover bolt below fill plug



BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated

Two adjustment cams are provided on each backing plate

Adjust the brakes as follows:
1. Turn adjustment cam until drum cannot be turned by hand
2. Back off adjustment cam until drum just turns freely without drag
3. Repeat steps 1 and 2 for other adjustment cam
4. Repeat procedure at each wheel

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

★ Every 1,000 to 2,000 miles
3 Every 3,000 to 4,000 miles or 90 to 120 hours
Universal Joints: Every 3,000 to 5,000 miles
5 Every 5,000 miles
10 Every 10,000 to 20,000 miles or 300 to 600 hours
15 Every 15,000 to 20,000 miles or 450 to 600 hours
TY Twice yearly or every 10,000 miles

GAS TANK ....Gallons
All models 11*
* Dual tanks, 11 each tank

● Lubrication fitting
● Cooling system drain

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CL Chassis Lubricant

EP Extreme Pressure Gear Lubricant
Sulfur chlorine lead type

GG Graphite Grease

GL Straight Mineral Gear Lubricant

HB Hydraulic Brake Fluid, Heavy-Duty SAE 70R3

MO Motor Oil
"MS" meeting MIL-L-2104A
"S1" Supplement 1

MP* Multi-Purpose Gear Lubricant
Suitable for hypoid axles

WB Wheel Bearing Grease

* This lubricant also recommended for Powr-Lok differentials

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1951-57	1 (6-volt)	100
1958 early	1 (6-volt)	105
1958 late, 1959-64	24H	50

COMPRESSION PRESSURE

(at cranking speed with throttle open)

	psi
4-cyl.: L-head	110-120*
F-head	120-130*
6-cyl.: L-head 226 engine	125-140*
OHC 230 engine	145-155**

* Variations should not exceed 10 psi
** Variations should not exceed 15 psi

SPARK PLUGS

Champion: OHC L-12Y; Others: Autolite A7; Champion J-8
Gap: .030"
Torque: 4-cyl. 25-33 ft. lb.; 6-cyl. 20-30 ft. lb.

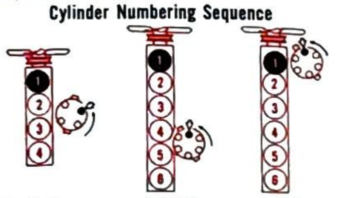
IGNITION POINTS

Autolite, Delco
Gap: Autolite, .020"; Delco, .022"
Dwell angle: Autolite: 4-cyl. 42°; 6-cyl. 226, 39°
Delco: 4-cyl. 25°-34°; 6-cyl. 226, 31°-37°, OHC 38°

CONDENSER

Autolite, Delco
Capacity: Autolite .21-.25 mfd; Delco, OHC .25-.28 mfd., others, .2 mfd

Cylinder Numbering Sequence



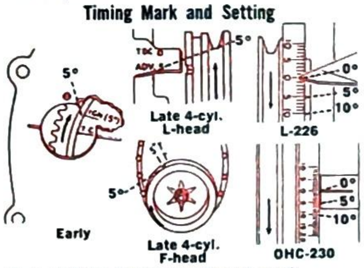
L-head 226 | OHC 230

Firing Order:
4-cyl. 1, 3, 4, 2
6-cyl. 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at flywheel or crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Early | Late 4-cyl. L-head | L-226 | Late 4-cyl. F-head | OHC-230

Timing Setting (Before Top Dead Center):
4-cyl. IGN mark or 5°; 6-cyl. 5°

FUEL PUMP

AC and Carter mechanical, various models
Pressure: 4-cyl., 2½-3¾ lb. at 1800 rpm; 6-cyl., 3½-5½ lb. at 1800 rpm
Volume: 1 pint in 30 seconds or less at idle speed

CARBURETOR ADJUSTMENT

	Idle Mixture (initial turns)	Choke (notches) Man. Trans.
CARTER		
1-bbl. WO	1-2	manual
1-bbl. YF	1-2½	manual
2-bbl. WCD	1-2	manual*
2-bbl. WGD	1-1½	manual*
HOLLEY		
2300	½	manual
ZENITH		
1-bbl. 28BV10	1¼	manual

* 1955, early 1956, index

ENGINE IDLE SPEED

4-cyl. 600 rpm
6-cyl.: L-head, 550 rpm; OHC, 590-600 rpm

VALVE CLEARANCES

(engine cold)
4-cyl.: L-head: Intake .016"; exhaust .016"
F-head: Intake .018"; exhaust .016"
6-cyl.: L-head: Intake .014"; exhaust .014"
OHC, Before eng. Serial Nos. TW60C16750, SW60C10484: Intake .010"; exhaust .012"
Nos. listed and after: Intake .008"; exhaust .008"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

Chek-Chart

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
6-226	13	12
4-cyl., 6-230	12	11

Cooling system pressure: 4-cyl., 7 pounds; 6-226, 6-230, 13 pounds

[TY] **Fuel Filter** .... Clean screen
4-cyl., left

Governor 4-cyl. .... Crankcase grade MO
[★] Level plug, maintain to level of plug hole
Without plug, fill with 2 ounces
[2] DRAIN and REFILL

[★] **Generator** (2 oil cups) .... Sparingly MO
Crankcase grade. 4-cyl., right side. Alternator, no lub.

[2] **Oil Fill Cap** .... Wash and oil MO
6-230, some 4-cyl., in valve cover, no service; other 4-cyl., right side forward

[6] **Oil Fill Cap Screen** 6-230 .... Wash

[6] **Crankcase Breather** 6-230 Wash and oil MO
Left side, center of engine. Also, remove and wash screen in breather tube

[6] **Oil Filter** .... Replace, add extra quart oil
4-cyl., right front corner of engine

Crankcase Dipstick .... Check level
4-cyl., right side forward

[★] **Steering Gear** (plug) .... 80 MP

[★] **Starter** (oil cup) 1954, 6-226 only .... MO

[★] **Brake Master Cylinder** (plug) .... HB
Fill to ⅓ inch below top of fill hole

[★] **Battery** .... Test and fill

[★] **Front Suspension and Steering Linkage** ...... (4 to 10 fittings) CL

[12] **Speedometer Cable** .... Coat GG

[★] **Clutch Release Shaft** .... Sparingly CL
Early 6-226, some early 6-230 engines

[★] **Clutch and Brake Pedals** CL

[★] **Transfer Case Shift Lever Shaft** CL

TRANSMISSION and TRANSFER CASE .... MP

Above +32°, 90; below +32°, 80
[★] Maintain level to fill plug hole
CAPACITY Transmission: 3 pints, 1961-62 with 6-226, 6-230 engines, 2½ pints. Transfer Case, 3½ pints
[12] DRAIN and REFILL
Transfer Case, drain and refill thru separate plug holes

[C] **Power Take-Off Universal Joints** .... Repack UJ

[★] **Spring Bolts** CL
Some, no lubrication

[12] **Hand Brake Cables** .... Coat GG

[★] **Universal Joint** .... UJ
Use low pressure

[★] **Rear Wheel Bearings** .... WB
Apply sparingly until lubricant appears at vent hole above housing

REAR DIFFERENTIAL .... 80 MP*

[★] Maintain level to fill plug hole
CAPACITY 3 pints
[12] DRAIN and REFILL
POWR-LOK IDENTIFICATION (Front and Rear): Metal tag attached to housing stamped with letter "T" or "Use Limited-Slip Diff. Lube only"

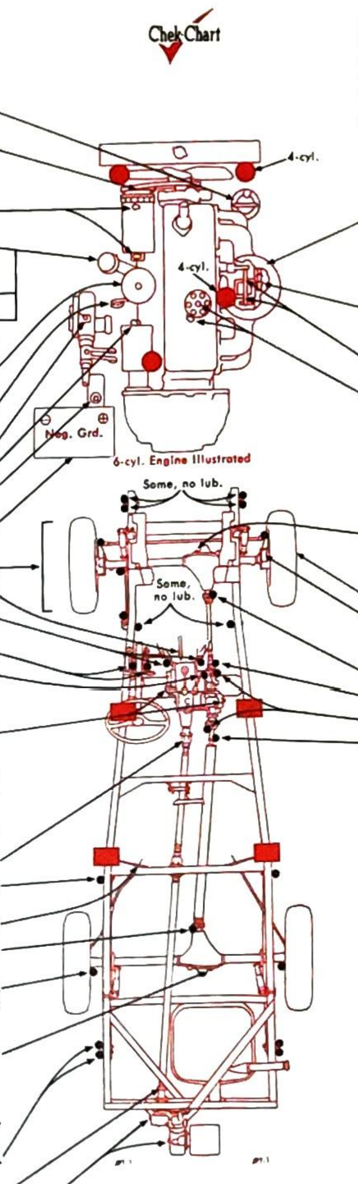
[★] **Spring Shackles** CL
Some, no lubrication

[C] **Power Take-Off Universal Joints** .... Repack UJ

Power Take-Off and Belt Pulley Housings .... 80 MP
[★] Fill each unit to plug level
[3H] DRAIN and REFILL thru separate plug holes

GAS TANK .... Gallons

All models 15



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MM" MO

Severe driving, "MS"

Above +32°	30	10W-30
Above +10°	20,20W	10W-30,10W-20
Above −10°	10W	10W-30,10W-20
Below −10°	5W	5W-20

CAPACITY 4-cyl., 4 quarts; 6-cyl., 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Air Cleaner Element .... Service
Oil bath .... Wash and fill MO [2]
Crankcase gr.. 6-230 engine, left side forward
Wire gauze .... Wash and oil MO [★]
Crankcase grade

PCV System Valve .... CC [6]
4-cyl., 6-230 engine left side
Remove, clean valve and hose

Manifold Heat Control Valve Shaft .... PO [★]
On 4-cyl. L-head & late 6-226 eng. 4-cyl., left side

Distributor
Right side; 4-cyl. center; 6-230 forward
Shaft (plug) .... MO [20]
Felt under plate .... Sparingly MO [★]
Wick under rotor .... Sparingly MO [★]
Shaft (oil cup) .... MO [★]
Wick under rotor .... Sparingly MO [★]

FRONT DIFFERENTIAL .. 80 MP*

Maintain level to fill plug hole .... [★]
CAPACITY 2½ pints
DRAIN and REFILL .... [12]

Front Wheel Bearings .... Repack WB [6]

Front Axle Universal Joints (plug) .... UJ
Maintain level to fill plug hole .... [★]
Repack .... UJ [12]

Universal Joint .... Use low pressure UJ [★]

Universal Joint Spline .... UJ [★]

Universal Joints .... Use low pressure UJ [★]

Universal Joint Spline .... UJ [★]

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated
Two adjustment cams are provided on each backing plate
Adjust the brakes as follows:

1. Turn adjustment cam until drum cannot be turned by hand
2. Back off adjustment cam until drum just turns freely without drag
3. Repeat steps 1 and 2 for other adjustment cam
4. Repeat procedure at each wheel

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

[★] **Every 1,000 miles**
Field work: Daily

[2] **Every 2,000 miles**
Field or industrial work: Every 50 hours

[6] **Every 6,000 miles**
Field or industrial work: Every 300 hours, except replace oil filter every 150 hours

[12] **Every 12,000 miles or yearly**
Field or industrial work: Every 300 hours

[20] **Every 20,000 miles**

[TY] **Twice yearly**

[3H] **Every 300 hours**

[C] **Conditional service**
Repack power take-off universal joints once a year, if belt pulley is used frequently for continuous operation

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CC Carburetor Cleaner	HB Hydraulic Brake Fluid, Heavy-Duty	PO Penetrating Oil	
CL Chassis Lubricant	MO Motor Oil	UJ Universal Joint Grease	
GG Graphite Grease	MP* Multi-Purpose Gear Lubricant Differentials: MIL-L-2105B	WB Wheel Bearing Grease	

* For Powr-Lok differential, use Multi-Purpose Gear Lubricant, 'Jeep' Part No. 94557

'Jeep' TRUCKS

1957-64 Forward Control FC-150, FC-170

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1957	1 (6-volt)	100
1958 early	1 (6-volt)	105
1958 late, 1959-64	24H	50

COMPRESSION PRESSURE

(at cranking speed with throttle open) psi

	psi
4-cyl.	120-130
6-cyl.	125-140

Variations should not exceed 10 psi

SPARK PLUGS

Autolite A7; Champion J-8
Gap: .030"
Torque: 4-cyl. 25-33 ft. lb.
6-cyl. 28-30 ft. lb.

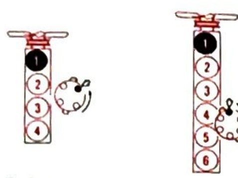
IGNITION POINTS

Autolite, Delco
Gap: Autolite, .020"; Delco, .022"
Dwell angle: Autolite; 4-cyl. 42°; 6-cyl. 39°
Delco: 4-cyl. 25°-34°; 6-cyl. 31°-37°

CONDENSER

Autolite, Delco
Capacity: Autolite .21-.25 mfd; Delco .2 mfd

Cylinder Numbering Sequence

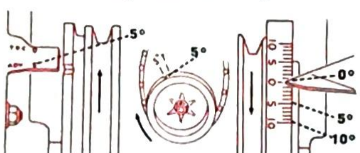


Firing Order:
4-cyl. 1, 3, 4, 2
6-cyl. 1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line and tape manifold opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at flywheel or crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



4-cyl. early 4-cyl. late 6-cyl.

Timing Setting (Before Top Dead Center): 5°

FUEL PUMP

AC model: 4-cyl., 4032, 6-cyl., 4318; Carter model M-957S
Pressure: AC, 2½-3¾ lb. at 1800 rpm; Carter, 3½-5½ lb. at 1800 rpm
Volume: 1 pint in 30 seconds or less at idle speed

CARBURETOR ADJUSTMENT

CARTER	Idle Mixture (initial turns)
1-bbl. YF	¾-1¼
2-bbl. YF	1-2½

ENGINE IDLE SPEED

4-cyl. 600 rpm; 6-cyl. 550 rpm

VALVE CLEARANCES

(engine cold)
4-cyl.: Intake .018"; exhaust .016"
6-cyl.: Intake .014"; exhaust .014"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM ....Quarts

	With Heater	Without Heater
FC-150	11	10
FC-170	12	11

Cooling system pressure, 9 pounds

Governor Some models.. Crankcase grade MO
★ Level plug, maintain to level of plug hole
Without plug, fill with 2 ounces
2 DRAIN and REFILL

★ **Generator** (2 oil cups)....Crankcase grade MO
Lubricate sparingly. FC-150, right side. FC-170, remove access plate in floor to service

2 **Oil Fill Cap**...............Wash and oil MO
FC-150, right side, no service required

Crankcase Dipstick.............Check level
FC-150, right side, combined with fill cap

6 **Oil Filter**.........Replace, add extra quart oil

12 **Speedometer Cable**...............Coat GG
Remove cable from conduit

★ **Clutch Relay Shaft**....................CL
Some, inner end of shaft

★ **Steering Gear** (plug)................80 MP

12 **Hand Brake Cable**.................Coat GG

★ **Front Suspension and Steering Linkage**......(7 to 13 fittings) CL

★ **Transmission Gearshift Operating Rod**......CL
4-speed transmission

★ **Clutch Release Shaft FC-170**.....Sparingly CL
Late models, no lubrication

★ **Shift Lever Selector Mechanism**..........MO

TRANSMISSION and TRANSFER CASE...........MP

Above +32°, 90; below +32°, 80
★ Maintain level to fill plug hole
CAPACITY Transmissions: 3-speed, 3 pints; 4-speed, 6¾ pints, plug right side; Transfer Case, 3½ pints
12 DRAIN and REFILL
Transfer Case, drain and refill thru separate plug holes

C **Power Take-Off Universal Joints**....Repack UJ

★ **Spring Bolts**.........................CL
Some, no lubrication

12 **Hand Brake Cables**...............Coat GG

Rear Wheel Bearings
★ With fittings.........................WB
Apply sparingly until lubricant appears at vent hole above fitting
6 Without fittings...............Repack WB
FC-170 dual wheels only. Remove axle shafts

REAR DIFFERENTIAL....80 MP*

★ Maintain level to fill plug hole
CAPACITY 3 pints, except FC-170 with dual rear wheels, 5 pints
12 DRAIN and REFILL
POWR-LOK IDENTIFICATION (Front and Rear): Metal tag attached to housing stamped with letter "T" or "Use Limited-Slip Diff. Lube only"

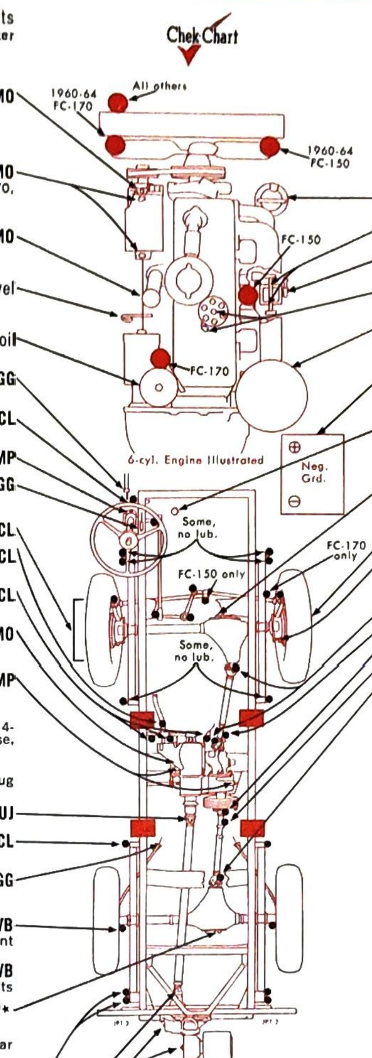
★ **Spring Shackles**.........................CL
Some, no lubrication

C **Power Take-Off Universal Joints**... Repack UJ

Power Take-Off & Belt Pulley Housings..80 MP
★ Fill each unit to plug level
3H DRAIN and REFILL Thru separate plug holes

GAS TANK.................Gallons

FC-150	16
FC-170	22



■ Position for lift adapter
• Lubrication fitting
● Cooling system drain

CRANKCASE..............."MM" MO

Severe driving, "MS"

Above +32°	30	10W-30
Above +10°	20,20W	10W-30,10W-20
Above −10°	10W	10W-30,10W-20
Below −10°	5W	5W-20

CAPACITY FC-150, 4 quarts; FC-170, 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Fuel Filter...................Clean screen TY
4-cyl., left side

Manifold Heat Control Valve Shaft.........PO ★
Late 6-226 engine

PCV System Valve....................CC 6
4-cyl., left side. Remove, clean valve and hose

Distributor Shaft (oil cup).......Sparingly MO ★
Wick under rotor..........Sparingly MO ★

Air Cleaner Element...............Service
Oil bath...........Wash and fill MO 2
Crankcase grade. FC-150, reach under truck

Battery..........................Test and fill ★

Brake Master Cylinder (plug)..............HB ★
Fill to ½ inch below top of filler hole
Remove insert on instrument panel to service fill tube plug on flexible hose

FRONT DIFFERENTIAL..80 MP*

Maintain level to fill plug hole.................★
CAPACITY 3 pints
DRAIN and REFILL.................12

Front Wheel Bearings...........Repack WB 6

Front Axle Universal Joints (plug)..........UJ
Maintain level to fill plug hole..........★
Repack..........................UJ 12

Universal Joints.........Use low pressure UJ ★
Universal Joint Spline....Use low pressure UJ ★
Universal Joint.........Use low pressure UJ ★
Universal Joint Spline....Use low pressure UJ ★
Universal Joint.........Use low pressure UJ ★

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated

Adjust the brakes as follows:

All models except FC-170 dual wheel rear axles

1. Loosen eccentric lock nut (if equipped) and hold lock nut with a suitable wrench
2. Turn eccentric until shoe contacts drum
3. Back off eccentric until shoe is just free of drum
4. Hold eccentric in this position and tighten lock nut
5. Repeat procedure at each shoe

Model FC-170 dual wheel rear axles

1. Turn star wheel until shoes are locked against drum
2. Back off adjustment until drum just turns freely without drag
3. Repeat procedure at each wheel

Bleeding sequence: RR, RF, LR, LF

KEY TO INTERVALS

★ **Every 1,000 miles**
Field work: Daily
2 **Every 2,000 miles**
Field or industrial work: Every 50 hours
6 **Every 6,000 miles**
Field or industrial work: Every 300 hours, except replace oil filter every 150 hours
12 **Every 12,000 miles or yearly**
Field or industrial work: Every 300 hours
TY **Twice yearly**
3H **Every 300 hours**
C **Conditional service**
Repack power take-off universal joints once a year if belt pulley is used frequently for continuous operation

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

CC Carburetor Cleaner	HB Hydraulic Brake Fluid, Heavy-Duty	PO Penetrating Oil	
CL Chassis Lubricant	MO Motor Oil	UJ Universal Joint Grease	
GG Graphite Grease	MP* Multi-Purpose Gear Lubricant Differentials: MIL-L-2105B	WB Wheel Bearing Grease	

* For Powr-Lok differential, use Multi-Purpose Gear Lubricant, 'Jeep' Part No. 94557

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY	AABM Group No.	Amp. Hrs.
All	24H	50, 60, 70

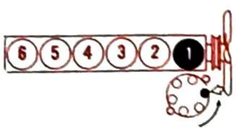
COMPRESSION PRESSURE
(at cranking speed with throttle open) psi
All 145-155
Variations should not exceed 15 psi

SPARK PLUGS
Champion L-12Y
Gap: .030"
Torque: 28-30 ft. lb.

IGNITION POINTS
Autolite
Gap: .020"
Dwell angle: 38

CONDENSER
Autolite
Capacity: .25-.28 mfd

Cylinder Numbering Sequence

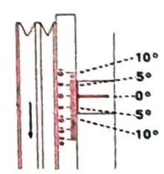


Firing Order:
1, 5, 3, 6, 2, 4

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line at carburetor and tape manifold opening
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain recommended setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center): 5°

FUEL PUMP
Carter model M-3561S
Pressure: 3½-5½ lb. at 1800 rpm
Volume: 1 pint in 30 seconds or less at idle speed

CARBURETOR ADJUSTMENT

HOLLEY	Idle Mixture (initial turns)
2300	½

ENGINE IDLE SPEED
590-600 rpm

VALVE CLEARANCES
(engine cold, not running)
Intake .008"; exhaust .008"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	With Heater	Without Heater
All models	12	11

Cooling system pressure, 13 pounds

★ Oil Filter .... Replace, add extra quart oil
★ Power Steering Reservoir .... AF
Fill to base of filler neck
★ PCV System Valve CC
Remove and clean valve and hose
Crankcase Dipstick .... Check level
Air Cleaner Element .... Service
★ Oil bath .... Wash and fill MO
Crankcase grade
★ Dry type ...... Wash in water and detergent
30 Dry type .... Replace
★ Steering Gear (plug) .... 80 MP
★ Brake and Clutch Fluid Reservoirs (plug or cap) .... HB
Fill to ½ inch below top of fill hole
C Remote Control Gearshift CL
4-speed transmission, no lubrication
★ Spring Shackles CL
Models with metal plugs, do not lubricate
30 Steering Bell Crank .... (fitting) CL
30 Independent Suspension Center Univ. Joint .. UJ
Loosen inner end of boot and pull back to reach fitting. Reassemble boot
30 Front Suspension Ball Joints .... (2 fittings) BJ
Independent front suspension models only
★ King Pins .... (4 fittings) CL
2WD solid front axle only
30 Steering Linkage .... (6 or 7 fittings) LL
★ Spring Bolts CL
Models with metal plug, do not lubricate
12 Speedometer Cable .... Coat GG
Remove cable from conduit

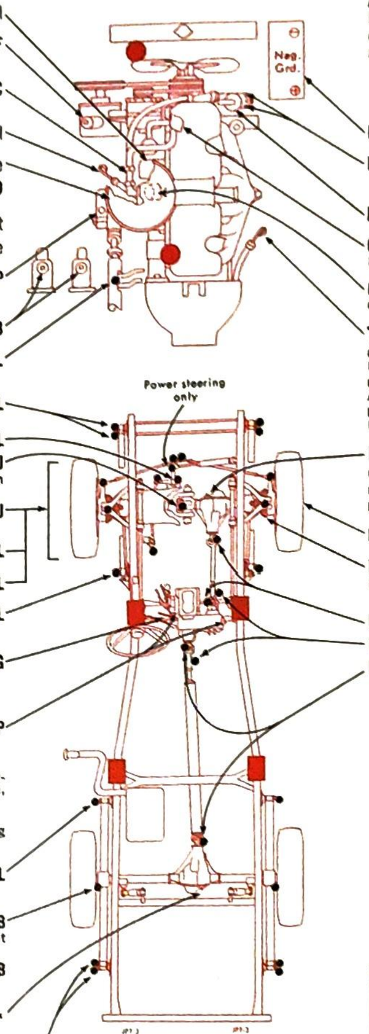
TRANSMISSION and TRANSFER CASE .... MP
Above +32°, 90; below +32°, 80
★ Maintain level to fill plug hole
CAPACITY 3-speed, 2½ pints; 3-speed heavy-duty, 2¾ pints; 4-speed, 6½ pints. Transfer Case, 3¼ pints
30 DRAIN and REFILL
Transfer case, drain and fill thru separate plug holes

★ Spring Bolts CL
Models with metal plug, do not lubricate
30 Rear Wheel Bearings .... WB
Apply sparingly until lubricant appears at vent hole above fitting
30 Dual rear wheel models .... Repack WB
Necessary to remove axle shafts

REAR DIFFERENTIAL .... 80 MP*
★ Maintain level to fill plug hole
CAPACITY 3 pints; dual wheel models, 6½ pints
30 DRAIN and REFILL
POWR-LOK IDENTIFICATION:
Metal tag attached to rear cover stamped with "Use Limited-Slip Diff. Lube only"

★ Spring Shackles CL
Models with metal plugs, do not lubricate

GAS TANK .... Gallons
All models 20



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MM" MO

Severe operation, "MS"		
Above +32°	30	10W-30
Above +10°	20,20W	10W-30,10W-20
Above −10°	10W	10W-30,10W-20
Below −10°	5W	5W-20

CAPACITY 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Battery .... Test and fill ★
Distributor Reservoir (plug) .... Repack LM 30
Wick under rotor .... Sparingly MO C
Fuel Filter .... Clean screen TY
Oil Fill Cap Screen .... Wash ★
Inside valve cover, below fill cap
Crankcase Breather .... Wash and oil MO ★
Clean screen inside breather pipe

TRANSMISSION, Automatic .. AF
Check level, engine idling and thoroughly warm, NEUTRAL position ★

CAPACITY, quarts	Initial Refill	Total Refill
All models	5	8½

DRAIN and REFILL 30
Remove 1 converter plug and disconnect fill pipe

FRONT DIFFERENTIAL .. 80 MP*
On 4WD only. Maintain level to fill plug hole .... ★
CAPACITY 2½ pints
DRAIN and REFILL 30

Front Wheel Bearings .... Repack CL 30
Front Axle Universal Joints (plug) CL
Maintain level to fill plug hole .... ★
Repack .... CL 30
Universal Joints .... Use low pressure UJ 30
Universal Joint Splines ... Use low pressure CL 30
Universal Joints .... Use low pressure UJ 30

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2", the need for service is indicated
Two adjustment cams are provided on each backing plate
Adjust the brakes as follows:

1. Turn adjustment cam until drum cannot be turned by hand
2. Back off adjustment cam until drum just turns freely without drag
3. Repeat steps 1 and 2 for other adjustment cam
4. Repeat procedure at each wheel

Bleeding sequence: RR, LR, RF, LF

KEY TO INTERVALS

For off-highway operation, reduce all lubrication and service intervals in accordance with severity of operation and amount of mud, water and dust encountered. Under extremely dusty conditions, service air cleaners daily

★ Every 6,000 miles
12 Every 12,000 miles
30 Every 30,000 miles
TY Twice yearly
C Conditional service
Lubricate remote control gearshift when hard to shift
Lubricate distributor wick under rotor when breaker points are replaced

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
BJ Suspension Lubricant
'Jeep' Part No. 934570
CC Carburetor Cleaner
GG Graphite Grease
CL Chassis Lubricant
Front Axle Universal Joints and Wheel Bearings: MIL-G-10924
Universal Joint Splines: 'Jeep' Part No. 934190
HB Hydraulic Brake Fluid, Heavy Duty
LL Steering Linkage Lubricant
'Jeep' Part No. 934571
LM Lithium Grease
MO Motor Oil
MP* Multi-Purpose Gear Lubricant
Differentials: MIL-L-2105B
UJ Universal Joint Grease
'Jeep' Part No. 934188
WB Wheel Bearing Grease

* For Powr-Lok differential, use Multi-Purpose Gear Lubricant, 'Jeep' Part No. 94557

STUDEBAKER TRUCKS

1960-64 5E, 6E, 7E, 8E Series ½, ¾ Ton

TUNE-UP DATA

See Service Instructions for Procedure

BATTERY

	AABM Group No.	Amp. Hrs.
1960-63	24	50
1964	24	53
	24T	70

COMPRESSION PRESSURE

(at cranking speed with throttle open) — psi
All 130-150

SPARK PLUGS

Champion: 1960-61, 6-cyl. L-head J-7, OHV H-14Y, V-8 H-10; 1962-64, H-14Y
Gap: 6-cyl., 1960-61, .030", 1962-64, .035"
V-8, .035"
Torque: 30 ft. lb.

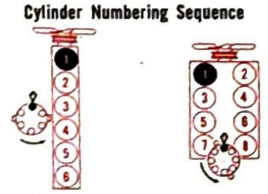
IGNITION POINTS

Autolite: 1960-62, 6-cyl. 170; 1962, V-8; Delco 1960-61, V-8; Prestolite 1963-64, 6-cyl., V-8
Gap: 6-cyl. 170 .020", 245 .022"
V-8, 1960-61, .016"; 1962-64, .014"-.019"
Dwell angle: 1960-61, 6-cyl. 170 37°-41°, 245 31°-37°, V-8 28°-34°; 1962-64, 6-cyl. 38°-40° V-8 27°-31°

CONDENSER

Autolite, Delco, Prestolite
Capacity: Autolite, Prestolite, .21-.25 mfd; Delco, .18-.23 mfd

Cylinder Numbering Sequence

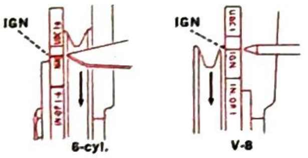


Firing Order:
6-cyl. 1, 5, 3, 6, 2, 4
V-8 1, 8, 4, 3, 6, 5, 7, 2

TIMING PROCEDURE

1. Bring engine to operating temperature
2. Connect tachometer
3. Connect timing light to No. 1 spark plug or distributor cap tower
4. Disconnect distributor vacuum line
5. Set idle speed with transmission in NEUTRAL
6. Observe timing at crankshaft damper and turn distributor to obtain proper setting
7. Reconnect vacuum line and reset to proper idle speed

Timing Mark and Setting



Timing Setting (Before Top Dead Center):
6-cyl., 2°; V-8, 4°

FUEL PUMP

AC model: 6-cyl., 1960 245, 1539415; 1960-62 170, 5594810; 1963-64, 5594811
Carter model: V-8, 1960, M-25735A; 1961-64, MF-3155S
Pressure: 4-5½ lb. at 1800 rpm
Volume: Minimum 1 pint in 30 seconds at 4000 rpm

CARBURETOR ADJUSTMENT

CARTER	Idle Mixture (initial turns)	Choke (notches) Man. Trans.	Choke (notches) Auto. Trans.
1-bbl. AS	1	index	index
1-bbl. BBR-1	1	manual	manual
1-bbl. RBS	1	index	index
4-bbl. WCFB	2	1 rich	1 rich
STROMBERG			
2-bbl. WW	1¼	index*	index*

* Some models, use manual choke

ENGINE IDLE SPEED

Manual Trans. 550-600 rpm
Auto. Trans. 550 rpm in NEUTRAL

VALVE CLEARANCES

(engine cold, not running)
6-cyl.: 170 L-head, intake .018"; exhaust .018"
245, intake .016"; exhaust .016"
(engine hot and running)
6-cyl. OHV, V-8: Intake .023"-.025"; exhaust .023"-.025"

SERVICE AT INTERVALS SHOWN BY SYMBOLS

COOLING SYSTEM .... Quarts

	Without Heater
5E5, 6E5, 6E10, 7E10	11
8E5, 8E10	10½*
5E6, 5E11	13½
5E7, -12, 6E7, -12, 7E12, 8E7, -12	17

* Heavy-duty radiator, 13½
Cooling system pressure, 7 pounds

[5] **Power Steering Reservoir** .... AF
Fill to level mark

[★] **Battery** .... Test and fill

[★] **Generator** (2 oil cups) .... MO
8-cyl., right side. Alternator, no lubrication

[5] **Steering Gear** (plug) .... 140 GL
8E, remove 2 plugs. Fill to level of forward plug only

Distributor
8-cyl., top rear center
[5] Shaft (oil cup) .... MO
[25] Shaft (plug) .... MO
[5] Wick under rotor, 6-cyl. & 7E, 8E 8-cyl. .. MO
[5] Felt under plate, 245-cu. in. 6-cyl. ...... MO

Crankcase Dipstick .... Check level
8-cyl., right side center

[★] **Gearshift Control Lever** CL
Not on 4-speed transmission or automatic

[★] **Front Suspension and Steering Linkage** ...... (8 or 10 fittings) CL

[★] **Clutch Release Shaft** CL
6-cyl. 5E, 6E, 7E, 1 fitting, left side

[★] **Clutch Pedal Linkage** .... MO

[★] **Pedal Shaft** CL

[10] **Speedometer Cable** .... Coat 90 GL

[10] **Speedometer Head** (oil hole) .... MO

[★] **Brake Master Cylinder** (plug) (thru floor) .... HB
Fill to ½ inch below top of fill hole
8E series, located on firewall

TRANSMISSION, Manual ..... GL

3-speed and Overdrive: 90 GL; 40 MO may be used
4-speed: Above +32°, 140; below +32°, 90
[★] Maintain level to fill plug hole
CAPACITY 3-speed: 6-cyl., 2½ pints, 8-cyl., 3 pints; 4-speed synchromesh, 8 pints; with overdrive, 6-cyl., 3½ pints, 8-cyl., 4 pints
[10] DRAIN and REFILL
Overdrive, drain and fill thru separate plug holes

[20] **Hydrovac Cylinder** .... VO
Fill to bottom of plug hole

[★] **Hydrovac Air Cleaner Element** .... 20 MO
Wash and oil

[★] **Propeller Shaft Bearing** CL
Not on ½ ton 112-inch wheelbase models

[★] **Universal Joint Spline** CL
At front joint on ½ ton 112-inch w.b. models

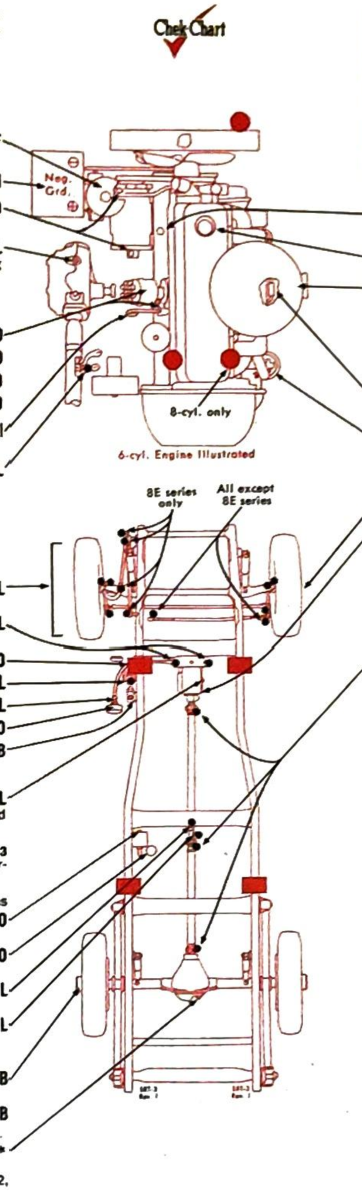
Rear Wheel Bearings
[10] With plug, ½ ton .... WB
Keep vent open. Use low pressure
[10] Without plug .... Repack WB
Necessary to remove axle shafts

DIFFERENTIAL .... 90 HP*

[★] Maintain level to fill plug hole
CAPACITY 5E11, 5E12, 6E10, 6E12, 7E10, 7E12, 8E10, 8E12, 5½ pints; all other models, 3 pints
[10] DRAIN and REFILL
TWIN-TRACTION IDENTIFICATION:
Metal tag stamped with letters "T" or "TD", or number "45", attached to housing

GAS TANK .... Gallons

All models 18



Position for lift adapter
Lubrication fitting
Cooling system drain

CRANKCASE .... "MS" MO

5E, 6E, 7E, 8E with by-pass filter

Above +32°	30	10W-30*
Above +10°	20W	10W-30
Above −10°	10W	10W-30
Below −10°	5W	5W-20

* 20W-40 for severe or heavy-duty operation
8E with full-flow filter, recommendations same as for 1964 passenger cars. See Chart SR-8
CAPACITY 5E6, 5E11, 6 quarts; all others, 5 quarts
DRAIN and REFILL
See Service Instructions, page 4

Crankcase Breather Outlet Element ...... Wash [C]
6-cyl. Not on models with PCV system. 1961 at rear right side of engine

Oil Fill Cap .... Wash and oil 20 MO [★]
5E 6-cyl., left side. 8E 8-cyl., 2 caps

Air Cleaner Element .... Service
Dry type .... Clean [★]
Dry type .... Replace [20]
Oil bath .... Wash and fill MO [C]
Summer, 40; winter, 20
Wire gauze .... Wash and oil 20 MO [C]

PCV System .... CC [10]
Remove and clean valve. 1963-64, replace the valve More frequently if required

Oil Filter .... Replace, add extra quart oil
Early 8-cyl., top front center; early 6-cyl., also late 6-cyl. with optional by-pass type filter, left side rear; 5E 6-cyl., left side forward
8E [4] 5E, 6E, 7E [5]

Front Wheel Bearings .... Repack WB [10]

TRANSMISSION, Automatic .. AF

Check level, engine idling, DRIVE position ...... [★]

CAPACITY, quarts	Initial Refill	Total Refill
5E7, 5E12, 6E5, 6E7, 6E12	3*	9½
7E5, 7E12, 8E5, 8E7, 8E10, 8E12	3*	9½

* Immediately after engine is started, add 4 quarts of fluid to transmission
DRAIN and REFILL .... [15]
Remove 2 converter plugs and transmission plug

Universal Joints .... CL [★]
Use low pressure
Center joint not on ½ ton 112-inch w.b. models

BRAKE ADJUSTMENT

With the brakes cold, if the brake pedal can be depressed more than 2" with standard brakes or more than 1" with power brakes, engine running, the need for service is indicated
Adjust the brakes as follows:
5E, 6E, 7E ½-ton models
Two eccentric adjustment cams are provided at each backing plate
1. Turn forward eccentric until slight shoe drag is felt while revolving drum in direction of forward wheel rotation
2. Back off the eccentric until drag is just eliminated
3. Adjust rearward shoe in same manner except revolve drum in direction of reverse wheel rotation
4. Repeat steps 1, 2 and 3 at each wheel

8E ½-ton, all ¾-ton models
1. Use a suitable tool inserted into backing plate adjustment opening to expand shoes until drum is locked
2. Back off adjustment 12 notches or until drum turns freely without drag
3. Repeat procedure at each wheel

Bleeding sequence: RR, LR, RF, LF If equipped, bleed power brake and Hill-Holder first

KEY TO INTERVALS

[★] Every 1,000 miles
[4] Every 4,000 miles
[5] Every 5,000 miles
[10] Every 10,000 miles
[15] Every 15,000 miles
[20] Every 20,000 miles or yearly
[25] Every 25,000 miles
[C] Conditional service
Wash crankcase breather outlet element as required
Wash and fill oil bath air cleaner as required
Wash and oil wire gauze air cleaner element as required

FOR YOUR SAFETY, WE CHECK YOUR BATTERY, BRAKE FLUID, FAN BELT, LIGHTS, MUFFLER, TIRES AND WIPER BLADES

KEY TO LUBRICANTS

AF Automatic Transmission Fluid, Type A, Suffix A
CC Carburetor Cleaner
CL Chassis Lubricant
GL Straight Mineral Gear Lubricant
HB Hydraulic Brake Fluid, Heavy-Duty
HP* Hypoid Gear Lubricant
MO Motor Oil
VO Vacuum Cylinder Oil
WB Wheel Bearing Grease

* Twin-Traction, use only Studebaker Twin-Traction Lubricant

SPARK PLUG HEAT RANGE

Thread Diameter	Reach	Heat Range	AC Regular	AC Resistor	AUTOLITE Regular	AUTOLITE Resistor	CHAMPION Regular	CHAMPION Resistor
10 mm	1/4"	Hot ↕ Cold	M-8 104		P6 P4	PR6 PR4	UY-6	
14 mm	3/8"	Hot ↕ Cold	48, 48X C47 46, C46 45, C45 44, C44 43, C43 42 C42-1 C42	R46 R45 R44 R43, CR43	A11 A9, AZ9 A7 A5 A3	AR10 AR80 AR51 AR41 AR31	UJ-12 J-11 J-8, UJ-8 J-7 J-6, UJ-6 J-4	XJ-12 XJ-11 XJ-8 XJ-7 XJ-6
	3/8" Long Tip	Hot ↕ Cold	46S 45S 44S, C44S 43S 42S	R46S R45S R44S R42S	A82 A52 A42, AT42 A32	AR82 AR52 AR42 AR32	J-18Y J-12Y J-10Y J-9Y	XJ-20Y XJ-18Y XJ-12Y XJ-10Y XJ-9Y
	7/16"	Hot ↕ Cold	47L 45L C45L 43L C43L		AL11 AL9 AL7 AL5	ARL8 ARL5	H-12 H-11 H-10 H-8	XH-12 XH-11 XH-10 XH-8
	7/16" Long Tip	Hot ↕ Cold	45LS 43LS		AL82 AL52	ARL82	H-18Y H-14Y	XH-14Y
	1/2"	Hot ↕ Cold	46FF, 46FFX 45F, 45FF 44F, 44FF 42FF	R46FF	AE6① AE4① AE3①	AER6① AER4①	L-14 L-10 L-7, L-85① L-5	XL-10 XL-7
	1/2" Long Tip	Hot ↕ Cold	46FFS 45FFS 44FFS		AE82 AE62① AE52 AE42		L-87Y① UL-15Y L-12Y	XL-87Y①
	3/4"	Hot ↕ Cold	47XL 46N②, 46XL 45N②, 45XL 44N② 43N② C42N②	R46N② R45N②,R45XL R44N② R44XL R43N②	AG7, AGZ7 AG5 AG4 AG3	AGR51 AGR41 AGR31	N-18 N-8 N-6 N-5 N-4 N-3	XN-8 XN-6 XN-5
	3/4" Long Tip	Hot ↕ Cold	46XLS 45XLS 44XLS	R45XLS R44XLS	AG82 AG52 AG42 AG32	AGR82 AGR52 AGR42 AGR32	N-16Y N-14Y N-12Y, UN-12Y N-9Y	XN-16Y XN-14Y XN-12Y XN-9Y
18 mm	Tapered Seat	Hot ↕ Cold	86T 85T 84T, C84T C83T	R85T CR84T CR83T	BF7 BTF6 BTF3, BTF31	BRF8 BRF6 BRF3	870 860 F-10	X-870 X-860 XF-10
	Tapered Seat Long Tip	Hot ↕ Cold	86TS 85TS, C85TS 84TS	R85TS R84TS	BF92 BF82 BF42 BF32 BF22	BRF82 BRF42	F-14Y F-11Y F-9Y F-83Y	XF-14Y XF-11Y XF-9Y

Comparison of heat range between makes is only approximate
① 12-mm thread reach ② ⅜" thread length